REPORT

SOUTHERN AREA GROUNDWATER INTERCEPTOR TRENCH CONSTRUCTION & INSTALLATION REPORT

DETREX RD/RA
SOURCE CONTROL AREA
DETREX FACILITY
ASHTABULA, OHIO
DOCKET NO. V-W-98-C-450

Prepared for

Detrex Corporation
Ashtabula, OH

January 2008

URS

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January 25, 2008

Ms. Terese VanDonsel
United States Environmental Protection Agency
Office of Superfund, Region 5
SR-6J
77 West Jackson
Chicago, IL 60604-3590

Subject: Southern Area Groundwater
Interceptor Trench Construction & Installation Report
Detrex Source Control Area – Fields Brook Superfund Site
Detrex Corporation, Ashtabula, Ohio
Docket No. V-W-98-C-450

Dear Ms. VanDonsel:

On behalf of Detrex Corporation (Detrex), URS Corporation (URS) is submitting two (2) copies of the *Southern Area Groundwater Interceptor Trench Construction & Installation Report* for your review and use. If you have any questions regarding this submittal, please do not hesitate to contact me at your convenience.

Sincerely,

URS Corporation - Ohio

Martin L. Schmidt

Martin L. Schmidt, Ph.D.
Vice President

Enclosure

cc: R. Currie – Detrex Corporation
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DNAPL	Dense Non-Aqueous Phase Liquid
DPT	Direct-Push Technology
DS	DS Tributary
FBAG	Fields Brook Action Group
GWIT	Groundwater Interceptor Trench
PID	Photo Ionization Detector
QAPP	Quality Assurance Project Plan
RD/RA	Remedial Design / Remedial Action
ROD	Record of Decision
SVOC	Semi-Volatile Organic Compound
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

List of Appendices

This report has been prepared on behalf of Detrex Corporation to document the construction and installation of the Groundwater Interceptor Trench (GWIT) located in the southern area of the Detrex Corporation (Detrex) Facility (Site) located in Ashtabula, Ohio. The GWIT was designed and installed pursuant to the direction of the USEPA, in order to mitigate the potential for the re-occurrence of DNAPL from on-site areas into the Fields Brook floodplain located to the south of the Site, as previously alleged by the Fields Brook Action Group (FBAG).

The following information is being provided as background information. During routine maintenance conducted by the Fields Brook Action Group (FBAG) in May 2005, a pooled dark liquid was encountered in locations at Fields Brook that were remediated during 2000/2001 in EU-8. The dark liquid was sampled and determined via laboratory analyses to have similar elemental characteristics as DNAPL, PCBs and heavy metals. This was in soil in the floodplain that was supposedly remediated during 2000/2001.

Upon review of FBAG's preliminary data in early September 2005, Detrex undertook an investigation of their own that was supervised by URS that included fifteen (15) test pits and twenty-one (21) geoprobes in an attempt to identify any potential DNAPL movement. The results from this investigation did not identify any DNAPL in the lacustrine clay formation or on top of the underlying till layer in the southern area of the facility.

On September 19, 2005, USEPA issued Detrex a Request for Work Plan for Resolution of DNAPL Release to Fields Brook. Detrex received this letter on September 22, 2005. The requested Remedial Design / Remedial Action (RD/RA) Work Plan was designed to verify the potential mechanism of transport and stop any identified movement of contamination in the future. In addition, the Work Plan was intended to identify short-term measures that would be put in place to stop a release as soon as possible and provide a schedule for long-term actions that would provide greater protection to Fields Brook. All actions are required to have a monitoring plan to assess the performance of the actions. Detrex prepared a Remedial Design / Remedial Action RD/RA Work Plan in response to USEPA's request dated September 19, 2005 and submitted it to USEPA on October 21, 2005.

Subsequent to the RD/RA Work Plan submittal, Detrex and URS personnel met with USEPA on December 13, 2005 to discuss the RD/RA Work Plan and aspects of the current DNAPL recovery program. Following this meeting it was agreed that a joint meeting with all parties would be scheduled. In addition, USEPA requested that Detrex prepare a "mini" Feasibility Study for DNAPL recovery enhancements and coordinate sampling of existing recovery trenches in Fields Brook.

Representatives from Detrex, FBAG, and USEPA met on February 8, 2006 to discuss DNAPL occurrences at the Fields Brook Site. On March 1, 2006, USEPA submitted a follow-up letter indicating that FBAG will be responsible for DNAPL issues in Fields Brook and Detrex will be responsible for DNAPL issues in the DS Tributary. USEPA met with Detrex on March 20, 2006 to further discuss the draft RD/RA Work Plan and review the proposed investigative scope for the Southern Area and DS Tributary Area. Additionally, Detrex agreed to install the GWIT along the southern portion of the Site and began design and bid procurement to facilitate the installation of the GWIT. This work was completed and the installation of the GWIT began in

November 2006. The GWIT was completed in January 2007. Installation of pumps and electrical conveyance was completed in June 2007. The GWIT became operational in July 2007 and groundwater monitoring of the water collected in the three (3) sumps began in September 2007.

1.1 REMEDIAL ACTIONS IN PLACE

The 1997 Record of Decision for Detrex Source Area included the following components to address DNAPL. The construction of a slurry wall to contain DNAPL, installation of a groundwater-collection trench to collect contaminated groundwater and installation of vacuum enhanced wells to collect pooled DNAPL. The slurry wall was to be installed downgradient of DNAPL source areas and the extraction wells were to be installed near the leading edge of DNAPL source areas.

The remedial components were installed during 2000 and 2002, which included the following: slurry wall, groundwater collection trench on-site and in DS Tributary and 12 extraction wells. Construction of the slurry wall and groundwater trench was completed in 2001. Operation of extraction wells began in 2002. At this time Detrex has installed two new recovery wells and will be evaluating new pump configurations for DNAPL recovery.

1.2 PRELIMINARY DESIGN OF THE GROUNDWATER INTERCEPTOR TRENCH

This section presents the preliminary design of the GWIT located along the southern area of the Site. The preliminary design was based on discussions held with USEPA in 2006, as well as the results of the data collected as part of the Remedial Design / Remedial Action (RD/RA) Work Plan that was approved by the USEPA in late 2006.

Figure 1 present a base map of the Detrex Site with the area of the GWIT installation highlighted. Based on the results of the previously completed investigations, the GWIT preliminary alignment was established and is shown in **Figure 2**. The Scope of Work (SOW) related to the installation of the GWIT is summarized as follows:

- The SOW included the installation of a GWIT, consisting of three (3) groundwater collection trench segments and sumps, an associated force main to direct the collected water to an existing discharge point, all associated electrical work, and Site restoration activities following the completion of the GWIT installation.
- Additional GWIT construction details are provided in **Figures 3 and 4**.
- Preliminary design details for the GWIT included: 1) Installation of approximately 1400 lineal feet of a nominal 4-foot wide trench, averaging approximately 15 feet in depth. The trench will be excavated approximately 3 feet into the underlying glacial till (see **Figure 3**). The groundwater collection pipe shall be constructed of 6-inch HDPE material or equivalent and wrapped with an appropriate filter fabric. The trench will be backfilled to approximately 4 feet below grade with crushed limestone or other appropriate aggregate and covered from approximately 4 feet below grade to the surface using existing soils from the excavation. All

excavated soils will be stockpiled in the work area for replacement into the completed trench as cover material or for redeployment as part of site restoration activities. The trench will be installed in three (3) segments, each incorporating a collection sump as shown in **Figures 2 through 4**. Due to the presence of an existing 6-inch force main, the GWIT segment #1 and #2 were designed for installation in a staggered orientation, in order to provide for full hydraulic containment coverage along the entire length (~1400 ft) of the GWIT. Following the completion of trenching activities, a 2-inch force main will be installed from each of the collection sumps to transmit the recovered groundwater to a catch basin associated with the existing Sedimentation Pond. The force main shall be located at sufficient depth below grade to prevent freezing. Additionally, all necessary electrical work required to provide power to the groundwater collection sumps and level control equipment will be completed. All electrical service is to meet required equipment specifications and local codes. Electrical service is to be tied into the system presently available from existing pump station located at the Sedimentation Pond.

- The GWIT is intended to operate continuously based on level control in the three (3) sumps. Water collected by the groundwater interceptor trench within the sumps will subsequently be directed, via a 2-inch force main, to a discharge point located at the existing catch basin for the Sedimentation Pond (see **Figures 2 through 4**). The groundwater collected will be then pumped and treated at the Detrex Facility using the existing granular activated carbon treatment system.
- All piping and electrical services will be place underground to eliminate the need for overhead lines and to prevent freezing.

Based on the results of competitive bids, Sun Pro Construction, Inc. (Sun Pro) was selected as the subcontractor to complete the installation of the GWIT at the Site. In addition to the above outlined items, Sun Pro was also subcontracted to complete the following:

- Obtainment / procurement of all necessary work permits, required inspections and approval of the installed and completed services, per local requirements;
- Mobilization and Demobilization;
- Erosion Control;
- Clearing and Grubbing;
- Waste Disposal (if necessary); and
- Site Restoration.

This section of the report discusses the installation of the GWIT along the southern boundary of the Site. URS and Sun Pro personnel mobilized to the Site to begin the GWIT installation on November 27, 2006. Preliminary grubbing and site preparation along the GWIT alignment had been previously completed to facilitate the installation of soil borings and monitoring wells located along the GWIT alignment as part of the RD/RA Work Plan field activities.

2.1 DESCRIPTION OF GWIT AREA

The GWIT area of the Site includes the entire southern half of the Detrex facility that lies between the operating portion of the facility and Fields Brook to the South. This area is shown on **Figure 2**. The GWIT was installed essentially across the entire length of the southern property boundary proceeding from State Road on the west to the eastern Detrex property line. In order to facilitate the collection of any groundwater that may seep into the trenches and to complete the installation of the GWIT within the underlying glacial till, the GWIT was installed in three (3) segments as follows:

- Segment 1: Extending from approximately soil boring locations IT-606 to IT-614 extending into the till, sloping from east to west into Sump #1, with an approximate depth of 15-20 feet below ground surface (ft-bgs), and an approximate lineal length of 800 feet (ft);
- Segment 2: Extending from approximately temporary monitoring well locations IT-605 to IT-601 extending into the till, sloping from east to west into Sump #2 and from the existing road along the 6-inch force main to monitoring well IT-601 extending into the till, sloping from west to east into Sump #2, with an approximate depth of 15-20 ft-bgs, and an approximate lineal length of 500 ft; and
- Segment 3: Extending from the western property boundary along State Rd. to approximately soil boring location IT-614 extending into the till, sloping from west to east into Sump #3, with an approximate depth of 15 ft-bgs, and an approximate lineal length of 150 ft.

The GWIT was installed, per approval of the USEPA, south of the DNAPL source area. The trench was generally located in a clean area that was downgradient of the identified DNAPL source and close to Fields Brook, in order to minimize potential future impacts down gradient to other clean areas of the Site.

As discussed previously, preliminary alignment and design drawings for the GWIT are presented in **Figures 2 and 3**. During the completion of GWIT installation field activities the actual depth of the GWIT was recorded and used to generate an as-built drawing of the installed GWIT. Additionally, following completion of the GWIT installation field activities and site restoration, the alignment of the GWIT was surveyed and this information was also utilized in the generation of as-built drawings. The GWIT as-built drawings showing alignment and depth are presented as **Figures 5 and 6**.

2.2 GWIT INSTALLATION AND CONSTRUCTION SUMMARY

Installation of the GWIT began on November 27, 2006. The concrete sump sections and other materials were delivered to the Site, site-specific health & safety training, and site worker orientation meetings were also conducted on November 27, 2006. Personnel on-site included URS, Sun Pro, Detrex, and USEPA oversight contractors. The excavation and placement of Sump #2 initiated the GWIT installation activities on this date. Construction activities related to installation of all leachate collection pipe, gravel backfill, filter fabric, and PVC pipe (i.e. forced main and electrical conduit) that had been placed and backfilled were completed on January 26, 2007. The completion of the remaining activities including the installation of the final concrete riser sections to Sumps #1 and #3, pulling electrical wires, and the installation of sump pumps and forced mains was achieved during the months of February and May 2007. The final grading and site restoration activities related to the GWIT system were completed in late spring and early summer 2007 after the area had dried sufficiently to be accessed and grading work completed. The pumps were operated occasionally for 2 months to purge water from the trench prior to sampling. The GWIT system was made operational in July 2007 and pumps were turned on in mid July 2007. The first sampling event of discharge water occurred on September 2007. Analytical results from sampling of the three sumps is provided by Detrex to USEPA in monthly O&M reports.

2.2.1 GWIT Segment #2 Details

The installation of GWIT Sump #2 comprised of the installation of four sections of 48-inch diameter reinforced concrete pipe. Starting with the base section of Sump #2 and proceeding to the top section, the concrete sump sections measured 48, 80, 80 and 32 inches (in.) in height, respectively. When later installed, the Sump #2 manhole cover measured an additional 12-in. in height. Based on measurements in the field, the total excavated depth from grade for Sump #2 was approximately 21.9 ft-bgs. Gravel backfill was placed in the base of the excavation to level Sump #2 with the gravel bringing the total depth of the base of Sump #2 to approximately 21.2 ft-bgs. The invert of the Segment #2 groundwater collection pipe was established at approximately 16.2 ft-bgs. The remaining length of groundwater collection pipe to the east and west of GWIT Sump #2 was installed at a depth approximating a 5% grade away from GWIT Sump #2. It is also noted that the glacial till was encountered along the entire length of GWIT Segment #2 and the groundwater collection tile was installed within the till as outlined in the preliminary design.

The excavation, installation and construction of the GWIT Segment #2 groundwater collection piping, beginning at Sump #2, and extending to the east began on November 28, 2006, and were completed on December 7, 2006. The excavation, installation and construction of the GWIT Segment #2 groundwater collection piping, beginning at Sump #2, and extending to the west began on December 8, 2006, and were completed on December 11, 2006. During the installation of GWIT Segment #2, any rain water or groundwater collected in Sump #2 was pumped from the sump each morning, and discharged into the existing waste water treatment sump in the Sedimentation Pond Area for subsequent treatment and disposal by Site personnel. It is noted that during the installation of GWIT Segment #2 only minimal amounts of groundwater were observed within the excavation (i.e. << 1 gallon per minute (gpm)). Additionally, a soil sample

and groundwater sample were collected near boring location IT-603 during the installation of GWIT Segment #2 at the direction of USEPA oversight personnel. These samples were packaged and sent to the analytical laboratory under chain-of-custody and analyzed for PCBs and VOCs. Results obtained from the soil and groundwater sample were below detection limits for PCBs and VOCs. Analytical results are provided in **Appendix A** (Sample ID: trench till, trench water).

At an approximate distance of 25 – 50 ft. east of GWIT Sump #2, an existing drainage ditch/swale running north to south at the Site was encountered. The GWIT was installed across the existing drainage ditch/swale and the gray glacial till soils excavated during the installation of GWIT Sump #2 were utilized as backfill above the GWIT gravel backfill layer in order to direct surface water flow the GWIT and not into the GWIT, thus preventing the potential for impacted surface water from entering the GWIT. It is further noted that the drainage ditch/swale area was the only location were impacted soils were detected during the entire GWIT installation. Airborne concentrations down wind of the workers' breathing zones ranged from non-detect to 3.2 per million parts of air (ppmv). Airborne concentrations were measured utilizing a photo-ionizing detector (PID) equipped with an 11.7 electron volt (eV) bulb. During the period of time when impacted soils were encountered airborne concentrations for workers and employees working upwind were less than 0.5 ppmv.

During the construction of GWIT Segment #2, three GWIT sampling points were installed at approximately 100 ft. intervals along the northern face of the excavation. The total depth of the GWIT sampling points was equal to the installed depth of the groundwater collection pipe. The GWIT sampling points were constructed of PVC pipe and were dry connected, and not glued, in order to prevent the introduction of contaminants from the glue into the GWIT. GWIT sampling points were also placed at the east and west termination points of GWIT Segment #2.

2.2.2 GWIT Segment #3 Details

The excavation and placement of GWIT Sump #3 was completed on December 12, 2006. The installation of GWIT Sump #3 comprised of the installation of four sections of 48-inch diameter reinforced concrete pipe. Starting with the base section of Sump #3 and proceeding to the top section, the concrete sump sections measured 48, 80, 64 and 24 inches (in.) in height, respectively. When later installed, at the request of the client, the Sump #3 manhole cover measured an additional 48-in. in height. This change was made in the field to provide for additional height from ground surface to raise the working surface around the Sump #3. Based on measurements in the field, the total excavated depth from grade for Sump #3 was approximately 24.5 ft-bgs. Gravel backfill was placed in the base of the excavation to level Sump #3 with the gravel bringing the total depth of the base of Sump #3 to approximately 23.6 ft-bgs. The invert of the Segment #3 groundwater collection pipe was established at approximately 18.6 ft-bgs. The remaining length of groundwater collection pipe to the west of GWIT Sump #3 was installed at a depth approximating a 5% grade away from GWIT Sump #3. It is also noted that the glacial till was encountered along the entire length of GWIT Segment #3 and the groundwater collection tile was installed within the till as outlined in the preliminary design.

The excavation, installation and construction of the GWIT Segment #3 groundwater collection piping, beginning at Sump #3, and extending to the west began on December 12, 2006, and were completed on December 14, 2006. During the installation of GWIT Segment #3, any rain water or groundwater collected in Sump #3 was pumped from the sump each morning, using a 4-inch trash pump and flexible hose, and discharged into the existing waste water treatment sump in the Sedimentation Pond Area for subsequent treatment and disposal by Site personnel. It is noted that during the installation of GWIT Segment #2 only minimal amounts of groundwater were observed within the excavation (i.e. << 1 gallon per minute (gpm)).

During the construction of GWIT Segment #3, two GWIT sampling points were installed. The first sampling point was installed approximately 150 ft. to the west of GWIT Sump #3 along the northern face of the excavation, and the second sampling point was installed along the northern face of the GWIT excavation at the western most termination point of GWIT Segment #3 (i.e. just east of State Rd.). The total depth of the GWIT sampling points was equal to the installed depth of the groundwater collection pipe. The GWIT sampling points were constructed of PVC pipe and were dry connected, and not glued, in order to prevent the introduction of contaminants from the glue into the GWIT.

It is noted that during the excavation of the GWIT Segment #3 approximately 50 ft west of GWIT Sump #3 a series of abandoned pipes were encountered. Based on discussions with Site personnel, it was determined that residential houses were formerly located in this area. These houses had been demolished but the buried pipes remained in the ground. The abandoned pipes were subsequently excavated along the alignment and removed and did not release any liquids when encountered only minimal stagnant water. The ends of the pipes were filled with clay soils. Field monitoring, using a PID, also indicated that no airborne concentrations were detectable.

2.2.3 GWIT Segment #1 Details

The excavation and placement of GWIT Sump #1 was completed on December 18, 2006. The installation of GWIT Sump #1 comprised of the installation of four sections of 48-inch diameter reinforced concrete pipe. Starting with the base section of Sump #1 and proceeding to the top section, the concrete sump sections measured 48, 80, 64 and 24 inches (in.) in height, respectively. When later installed, the Sump #1 manhole cover measured an additional 12-in. in height. In addition to the manhole cover, an additional 48-in. section of reinforced concrete pipe was added to GWIT Sump #1, at the request of the client. This change was made in the field to provide for additional height from ground surface to raise the working surface around the Sump #1. Based on measurements in the field, the total excavated depth from grade for Sump #1 was approximately 24.5 ft-bgs. Gravel backfill was placed in the base of the excavation to level Sump #1 with the gravel bringing the total depth of the base of Sump #3 to approximately 23.5 ft-bgs. The invert of the Segment #1 groundwater collection pipe was established at approximately 18.5 ft-bgs. The remaining length of groundwater collection pipe to the east of GWIT Sump #1 was installed at a depth approximating a 5% grade away from GWIT Sump #1. It is also noted that the glacial till was encountered along the entire length of GWIT Segment #3 and the groundwater collection tile was installed within the till as outlined in the preliminary design.

The excavation, installation and construction of the GWIT Segment #1 groundwater collection piping, beginning at Sump #1, and extending to the east began on December 18, 2006, and were completed on January 18, 2007. During the installation of GWIT Segment #1, any rain water or groundwater collected in Sump #1 was pumped from the sump each morning, using a 4-inch trash pump and flexible hose, and discharged into the existing waste water treatment sump in the Sedimentation Pond Area for subsequent treatment and disposal by Site personnel. It is noted that during the installation of GWIT Segment #1 only minor amounts of groundwater were observed within the excavation (i.e. estimated at ~1 gpm).

During the construction of GWIT Segment #1, several GWIT sampling points were installed. The sampling points were installed at approximately 150 ft. intervals to the west of GWIT Sump #1 along the northern face of the excavation of GWIT Segment #1. The total depth of the GWIT sampling points was equal to the installed depth of the groundwater collection pipe. The GWIT sampling points were constructed of PVC pipe and were dry connected, and not glued, in order to prevent the introduction of contaminants from the glue into the GWIT.

During the excavation of the GWIT Segment #1, a clay terracotta pipe was encountered in an area located east of GWIT Sump #1. When the clay terracotta pipe was severed by the track hoe bucket, a significant quantity of surface water was released into the GWIT Segment #1 excavation. The released water was monitored utilizing a PID and no airborne concentrations were detected. The amount of water released from the clay terracotta pipe was significant enough to warrant the installation of a remote sump area. This remote sump area was excavated to the north of GWIT Sump #1, and this water was subsequently pumped to the existing waste water treatment sump in the Sedimentation Pond Area utilizing a 4" trash pump for subsequent treatment and disposal by Site personnel. The terracotta pipe was filled with clay soils and plugged off.

During the excavation of GWIT Segment #1, four (4) soil samples were collected from the GWIT excavation east of Sump #1. These soil samples were packaged and sent to the analytical laboratory under chain of custody and analyzed for VOCs and SVOCs. The soil samples were collected, under the direction of USEPA oversight personnel, when liquids were observed to be leaching out of the side walls of the GWIT excavation. The soil samples were collected at distances located approximately 150, 180, 200, and 235 ft east of GWIT Sump #1. The results of the soil sample analyses did not indicate the detection of any significant levels of VOCs or SVOCs. The VOCs and SVOCs that were detected included di-n-butylhthalate and methylene chloride which are common laboratory artifacts. Analytical results are provided in **Appendix A** (Sample ID: IT5 150, 180, 200 and 235).

The GWIT Segment #1 running east of GWIT Sump #1 is the only segment of the overall GWIT to have a forced main and electrical conduit installed above the filter fabric. The forced main pipe is designed to be used to pump groundwater collected in both GWIT Sump #1 and Sump #3 back to the existing waste water treatment sump located in the Sedimentation Pond Area. The force main and conduit were constructed of PVC pipe. The PVC pipe section ends were cleaned and glued before backfilling occurred. The associated electrical wiring for the pumps and controls in GWIT Sumps #1 and #3 were then subsequently pulled through the PVC conduit to establish the necessary electrical connections.

2.3 GWIT INSTALLATION AND CONSTRUCTION PHOTOGRAPHIC LOG

During the completion of the GWIT installation and construction URS oversight personnel maintained a photographic log of the various phases of GWIT field activities. The complete photographic log is provided as **Appendix C** to the report, herein.

2.4 GWIT INSTALLATION AND CONSTRUCTION FIELD NOTES & LOGBOOK

During the completion of the GWIT installation and construction URS oversight personnel maintained a field note and logbook documenting the activities during the various phases of GWIT field activities.

2.5 GWIT INSTALLATION AND CONSTRUCTION SURVEY DATA

Following the completion of the GWIT installation and construction, URS personnel surveyed the final alignment and elevations of the existing monitoring wells and newly installed GWIT sampling points. The completed survey data is provided as **Appendix B** to the report, herein.

As requested by USEPA, additional investigation was completed along State Road north of Fields Brook. USEPA requested that additional geoprobe sampling be performed on the east side of the North Sewer. Fieldwork was performed during the period of January 18, 2007 to January 28, 2007. As part of this notification, two piezometers, seven borings were completed. Proposed locations are shown on **Figure** 7.

Sampling locations were completed with a geoprobe rig. During drilling, continuous soil sampling was performed and headspace readings were collected using a photoionization detector (PID) to determine soil sampling locations. In general, sampling was performed to a depth corresponding to the bottom of the North Sewer or refusal.

The sample location with the highest PID reading was selected for submittal to the analytical laboratory. PID readings are provided on the boring logs, which are included in **Appendix D**.

3.1 RESULTS OF INVESTIGATION

As shown on the boring logs, the subsurface conditions in the area west of State Road are similar to the geologic conditions on the east side, where the GWIT has been installed. The depth of the gray glacial till is approximately 8-15 ft below ground surface. Above the till is the brown lacustrine soil.

3.2 SUMMARY OF ANALYTICAL RESULTS

Soil analytical results that were detected above detection limits are summarized in **Table 1** for geoprobe sample locations.

Soil analytical results from geoprobe locations indicate the presence of two areas of elevated soil concentrations. The following locations are included: NSTB5B (50 ft north of North Sewer outfall); NSTB7, NSPZ2 (south of North Sewer near Fields Brook Channel). All other sampling locations located along the North Sewer detected either low ppb or were non-detect for VOCs and SVOCs.

Soil data collected along State Road from geoprobe samples and test pits indicates the presence of subsurface impacts and locations near the former discharge point of the North Sewer, north of Fields Brook (100 ft or more). Soil analytical data collected further north of the former discharge point along the sides and beneath the closed sewer are non-detect for VOCs. This data indicate that DNAPL is not migrating beneath the North Sewer from upland areas.

On behalf of Detrex Corporation, URS and a Detrex subcontractor, Sun Pro, completed the installation and construction of a Groundwater Interceptor Trench (GWIT) located along the southern boundary of the Site. The general location of the GWIT and the preliminary design drawings are provided as **Figures 1** through **4**. The GWIT was installed and constructed in three segments (i.e. Segments #1, #2, and #3) beginning on November 27, 2006. Field activities related to the construction and installation of the GWIT were completed on January 18, 2007. All work was generally completed as per the approved work plan and USEPA had oversight personnel on-site through the duration of the field activities. Approximately 1,400 lineal feet of GWIT were completed as part of the field activities, along with the installation of three sumps, designated as GWIT Sumps #1 through #3. Subsequent to the completion of field activities the remaining items related to the electrical connections of controls and sump pump, along with site restorations and final surveying activities were completed from February through June 2007. The final as-built drawings for the GWIT are provided herein as **Figures 5** and **6**. A photographic log, and final survey data are also provided herein as **Appendices B** and **C**, respectively. The GWIT system was made operational in mid July 2007. After flushing groundwater in the trench, the discharge effluent was sampled in September 2007. Future monitoring of the GWIT will consist of:

- Monthly sampling for first year (September 2007 – July 2008);
- Semi-annual sampling for remainder (July/December); and
- Inspection of GWIT sampling points semi-annually (July/December).

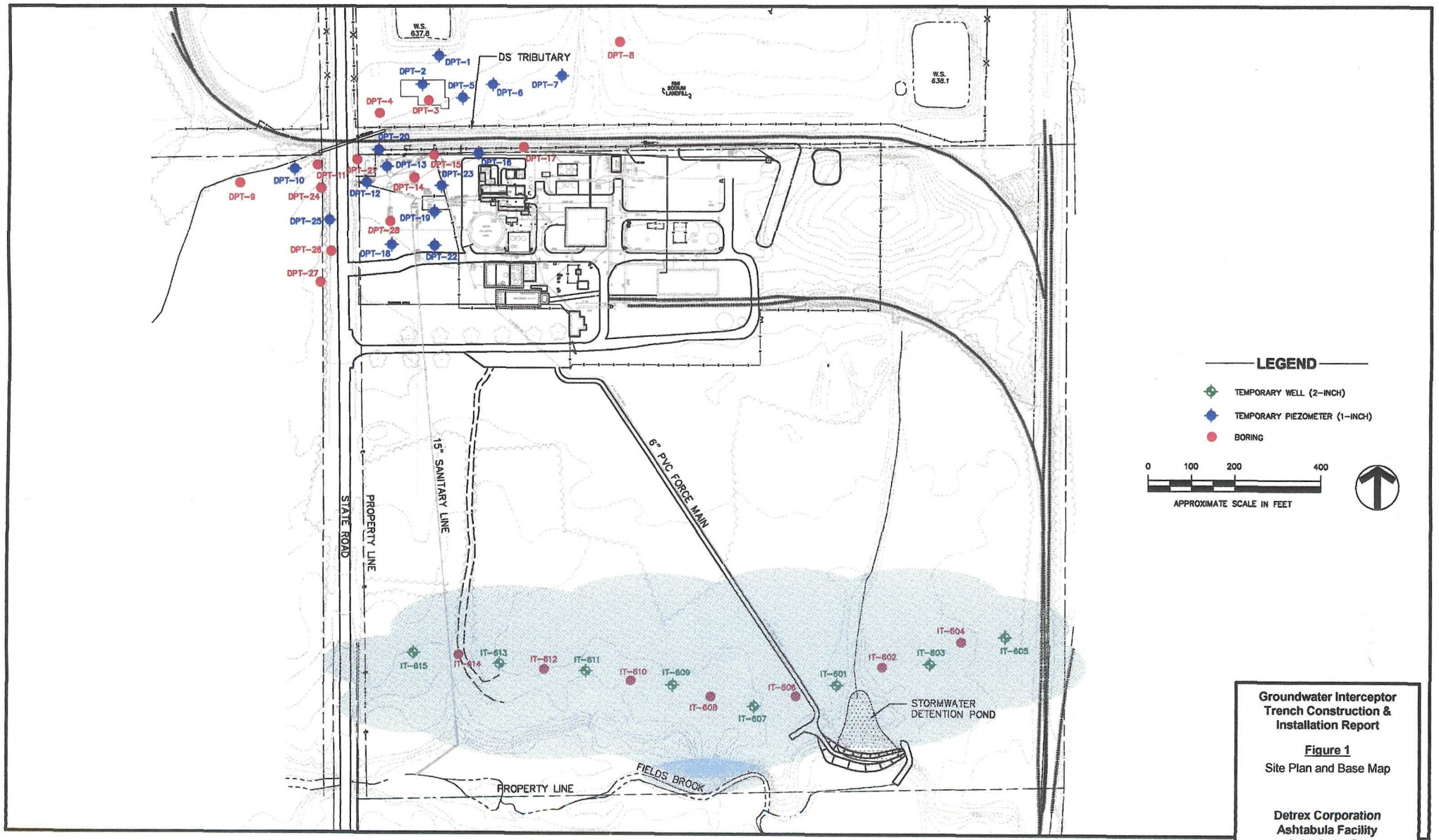
Tables

Table 1
Summary of Detected Chemicals in Soil Boring Samples
January 2007
North Sewer Area
Detrex Corporation
Ashtabula, Ohio

Parameter	NSTB-1B 01/18/2007	NSTB-2B 01/18/2007	NSTB-3B 01/18/2007	NSTB-4B 01/18/2007	NSTB-5B 01/22/2007	NSTB-6B 01/22/2007	NSTB-7 01/22/2007	NSPZ-1B 01/18/2007	NSPZ-2B 01/22/2007	NSPZ-2 12-14 01/25/2007
Volatile Organics										
1,1,2,2-Tetrachloroethane	5.1 U	5.4 U	5.5 U	5.4 U	500 U	6 U	**205**	5.2 U	4.8 U	5.1 U
1,1,2-Trichloroethane	5.1 U	5.4 U	5.5 U	5.4 U	500 U	6 U	**61.2**	5.2 U	4.8 U	**12.8**
1,1-Dichloroethene	5.1 U	5.4 U	5.5 U	5.4 U	500 U	6 U	22 U	5.2 U	**6.07**	**517**
1,2-Dichloroethane	5.1 U	5.4 U	5.5 U	5.4 U	500 U	6 U	22 U	5.2 U	4.8 U	**14.6**
2-Butanone (MEK)	51 U	54 U	55 U	54 U	**9530**	60 U	220 U	52 U	48 U	51 U
Acetone	100 U	110 U	110 U	110 U	**10100**	120 U	450 U	100 U	97 U	100 U
cis-1,2-Dichloroethene	5.1 U	5.4 U	5.5 U	5.4 U	**525**	**6.27**	**1440**	**8.8**	**13.6**	**410**
Tetrachloroethene	5.1 U	5.4 U	5.5 U	5.4 U	**175000**	**17.7**	**42300**	5.2 U	**10.8**	5.1 U
trans-1,2-Dichloroethene	5.1 U	5.4 U	5.5 U	5.4 U	500 U	6 U	22 U	5.2 U	4.8 U	**19.6**
Trichloroethene	5.1 U	5.4 U	5.5 U	5.4 U	**257000**	**96.8**	**14900**	5.2 U	**47.7**	**13500**
Vinyl Chloride	10 U	11 U	11 U	11 U	1000 U	12 U	45 U	10 U	9.7 U	**13.6**
Semivolatile Organics										
1,2,4-Trichlorobenzene	401 U	380 U	380 U	409 U	380 U	390 U	1800 U	449 U	**381**	**496**
Hexachlorobenzene	380 U	380 U	380 U	370 U	380 U	390 U	**3020**	370 U	340 U	380 U
Hexachlorobutadiene	380 U	380 U	380 U	370 U	380 U	390 U	**9480**	370 U	340 U	380 U

U = *The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.*

Figures



Groundwater Interceptor Trench Construction & Installation Report

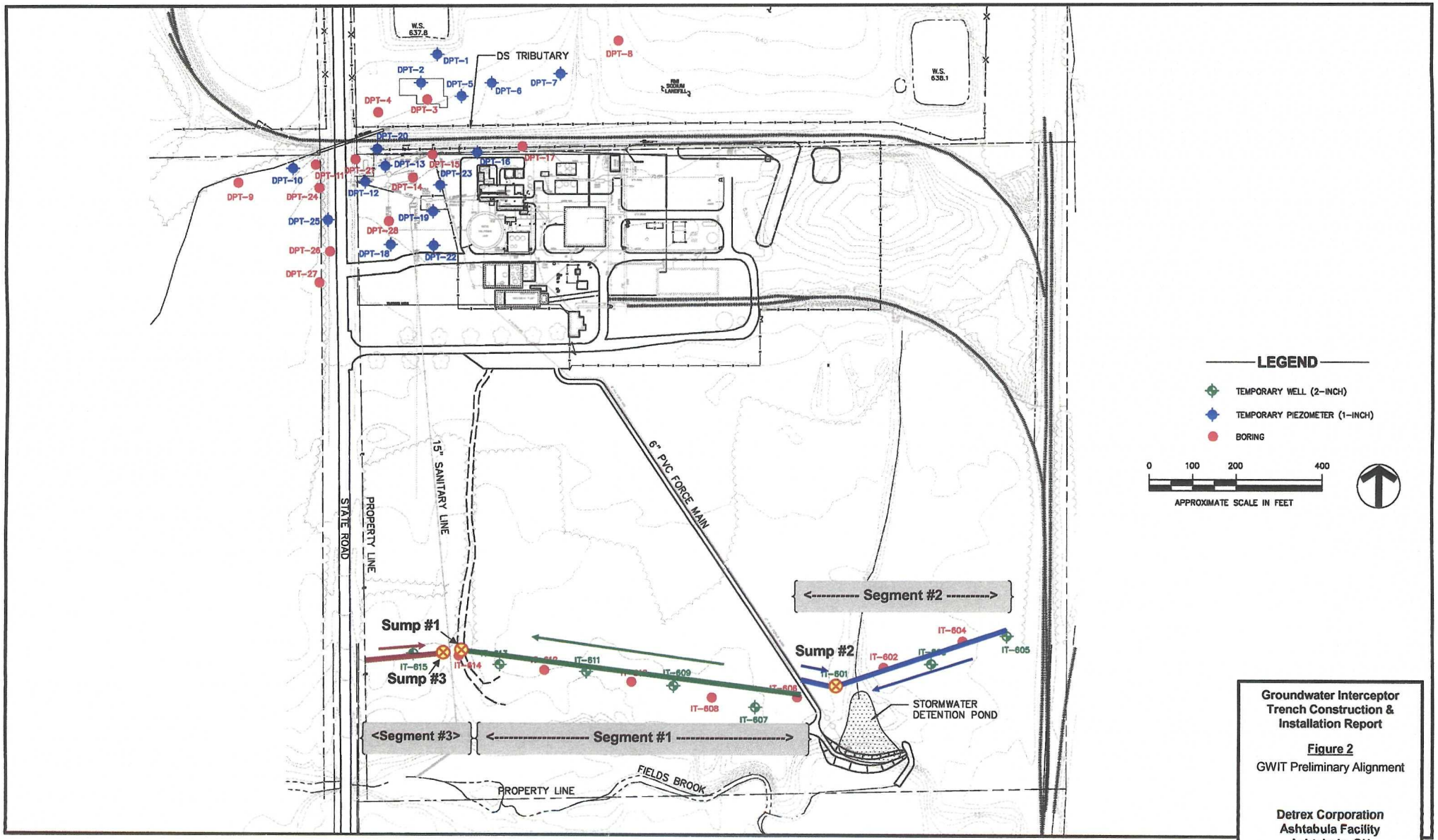
Figure 1

Site Plan and Base Map

Detrex Corporation
Ashtabula Facility
Ashtabula, OH

URS

August 2007



Groundwater Interceptor Trench Construction & Installation Report

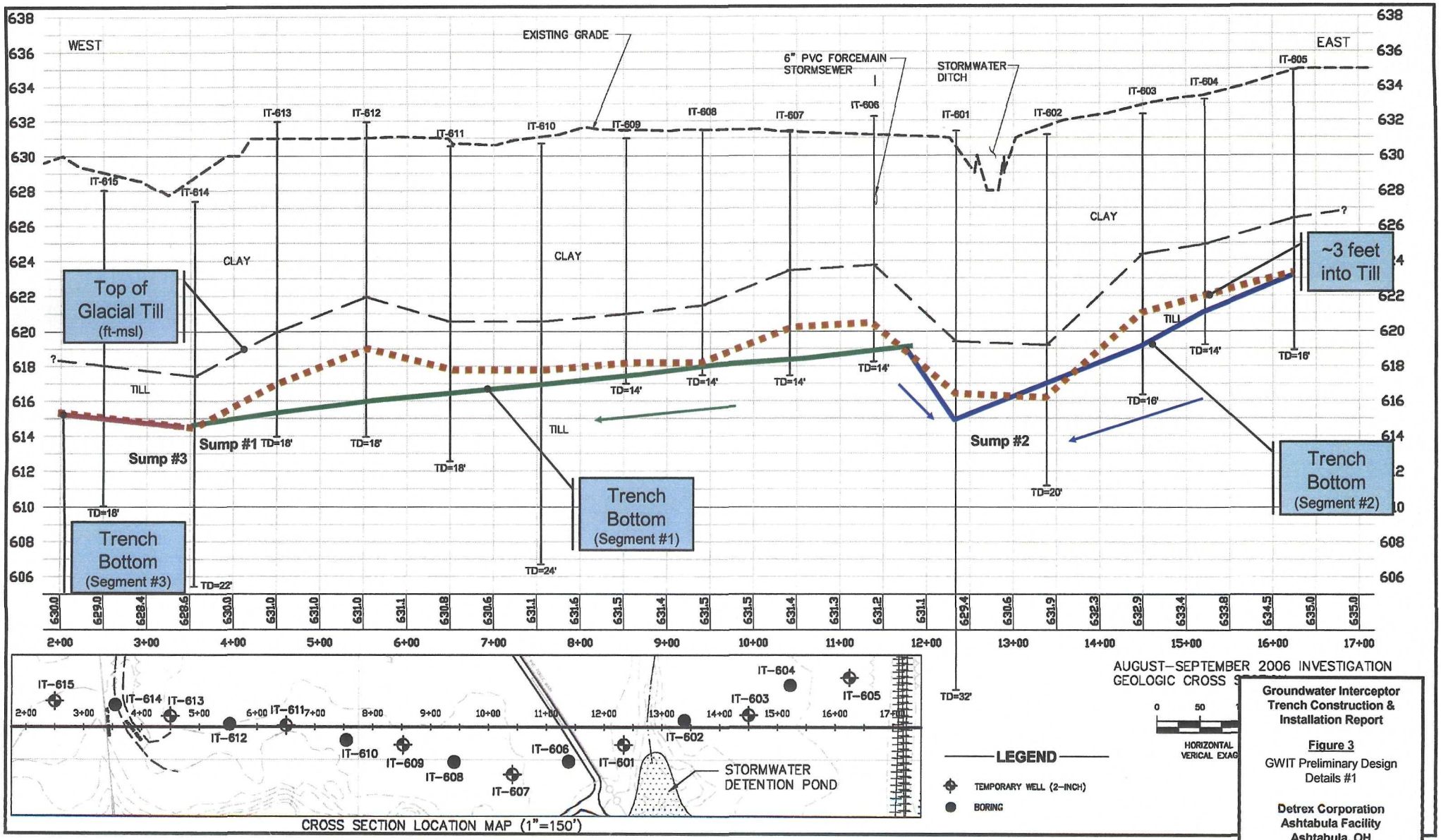
Figure 2

GWIT Preliminary Alignment

Detrex Corporation
Ashtabula Facility
Ashtabula, OH

URS

August 2007



Groundwater Interceptor Trench Construction & Installation Report

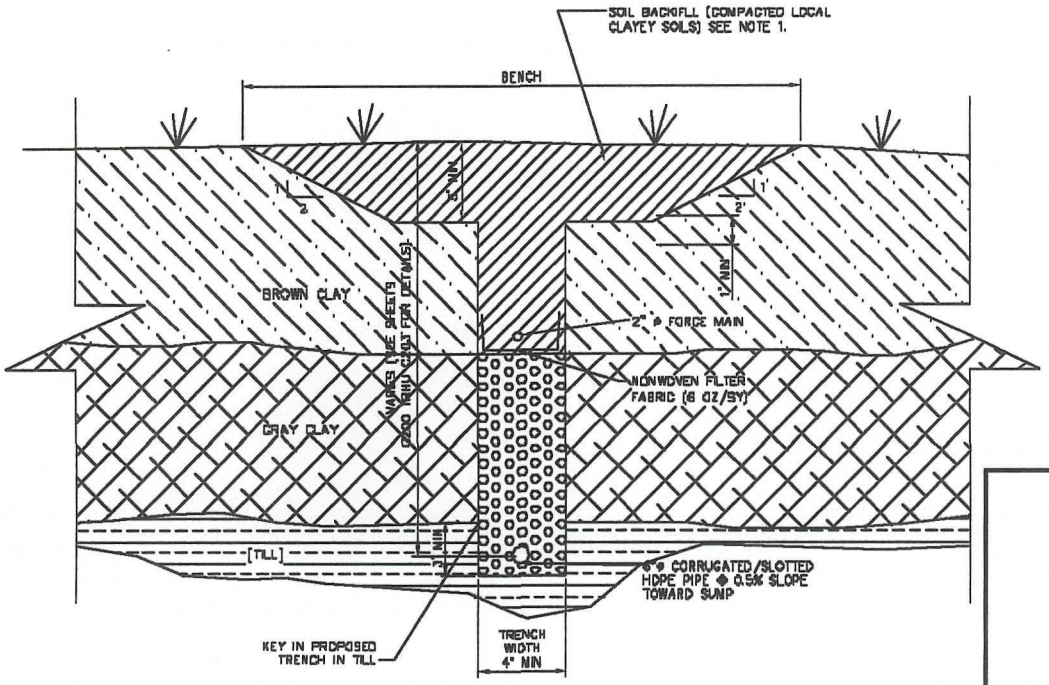
Figure 3

GWIT Preliminary Design Details #1

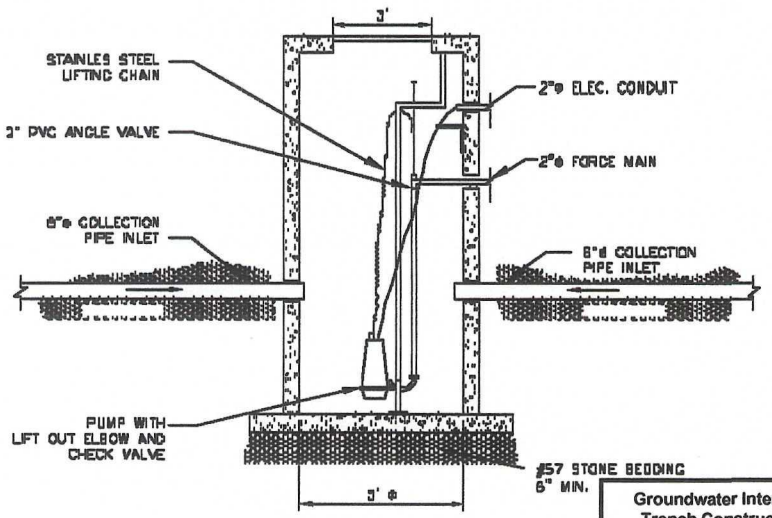
Detrex Corporation
Ashtabula Facility
Ashtabula, OH

URS

August 2007



TYPICAL TRENCH CROSS SECTION



TYPICAL SUMP DETAIL

NOT TO SCALE

Groundwater Interceptor Trench Construction & Installation Report

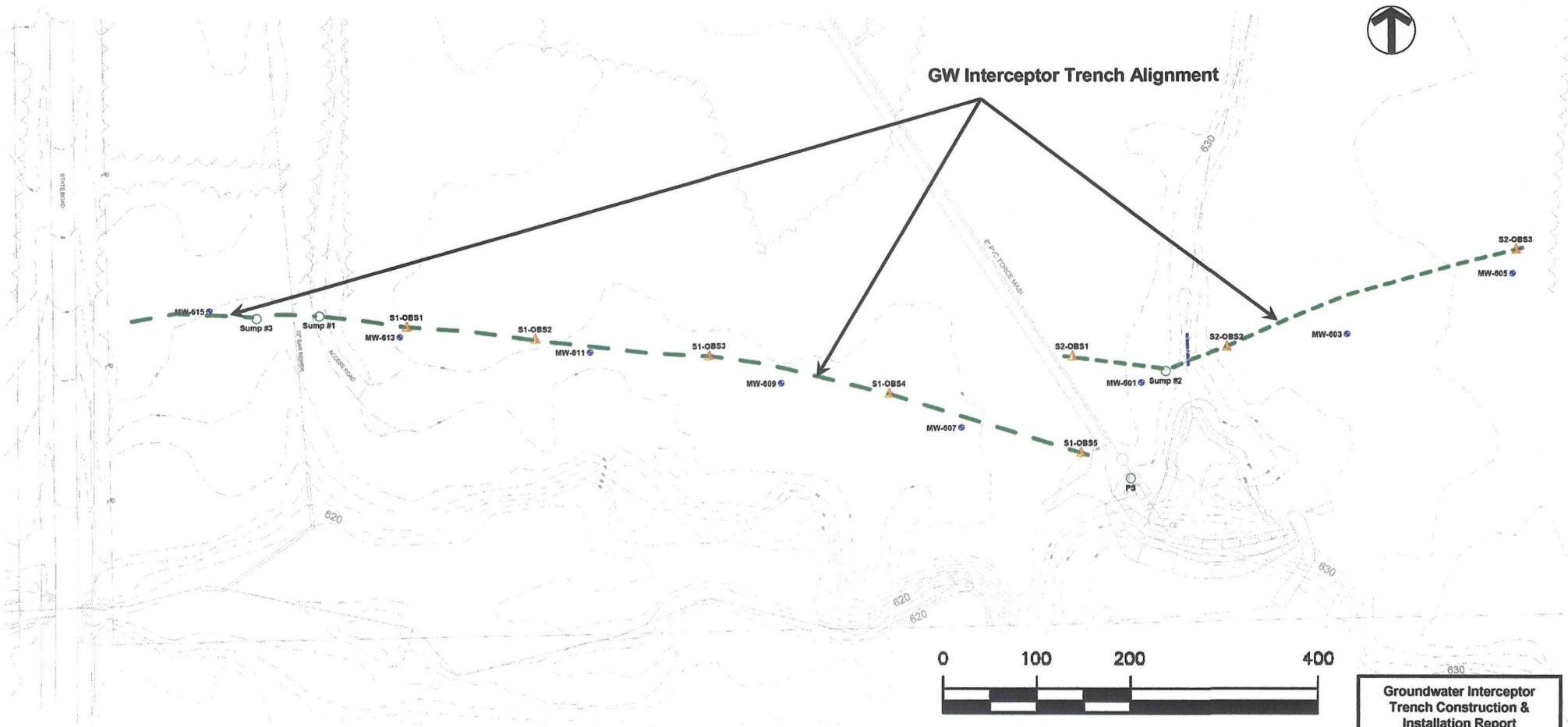
Figure 4

GWIT Preliminary Design Details #2

Detrex Corporation
Ashtabula Facility
Ashtabula, OH

URS

August 2007



Groundwater Interceptor Trench Construction & Installation Report

Figure 5

GWIT As-Built Alignment (Plan View)

Detrex Corporation
Ashtabula Facility
Ashtabula, OH

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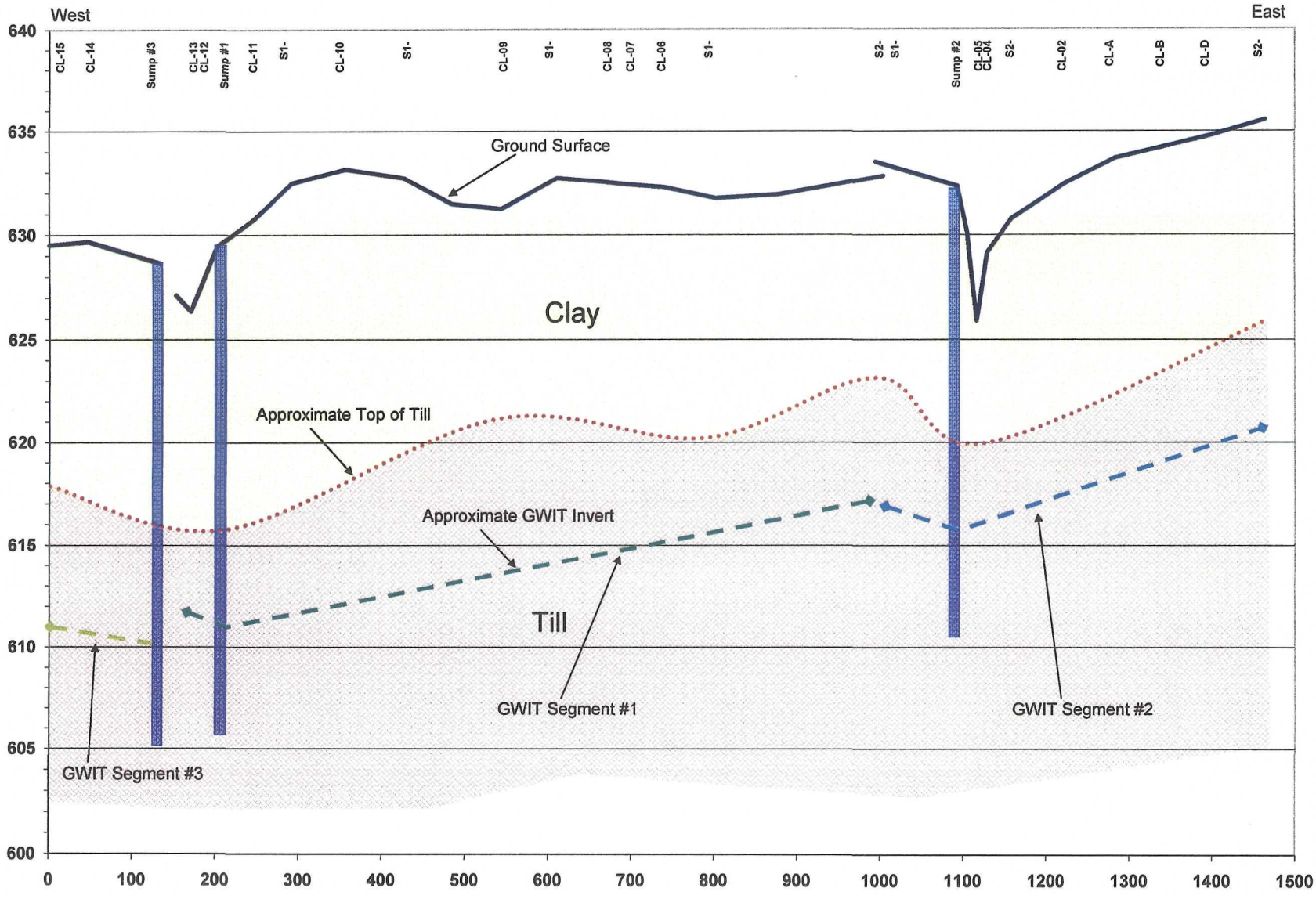


Groundwater Interceptor Trench Construction & Installation Report

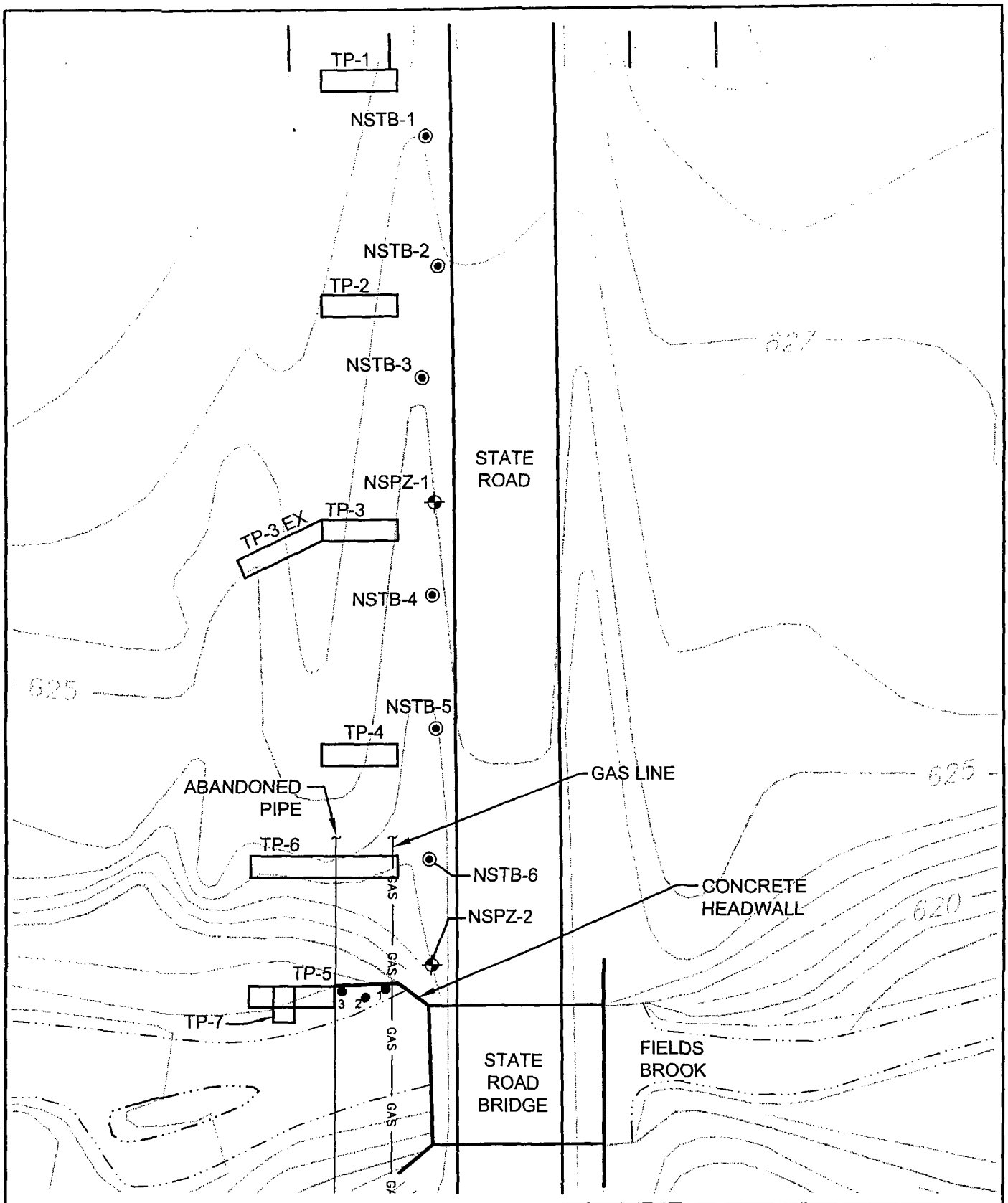
Figure 6

GWIT As-Built Profile
(X-section View)

Detrex Corporation
Ashtabula Facility
Ashtabula, OH

URS

August 2007



P:\D\Detrex\13611443\DWGs\Figures\Testpit\Figure7.DWG User: michael_shore Jan 11, 2008 - 11:38am

Appendix A

GWIT Laboratory Analytical Results

FIRSTECHNOLOGY, Inc.
4450 Johnston Parkway
Cleveland, OH 44128
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Fax: (216) 663-0656

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Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	94393
		Sample Type:	Solid
		Sample Source:	
		Sampler's Name:	
Sample Date:	11/30/06	**Client Sample ID:**	Trench Till
Sample Time:	1:30:00 PM		
Receipt Date:	12/1/06 1:15:00 PM		
Report Date:	12/5/06		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
PCBs						
PCB-1016	ND	mg/Kg	0.12	12/4/06	SW8082	PG
PCB-1221	ND	mg/Kg	0.25	12/4/06	SW8082	PG
PCB-1232	ND	mg/Kg	0.25	12/4/06	SW8082	PG
PCB-1242	ND	mg/Kg	0.12	12/4/06	SW8082	PG
PCB-1248	ND	mg/Kg	0.12	12/4/06	SW8082	PG
PCB-1254	ND	mg/Kg	0.12	12/4/06	SW8082	PG
PCB-1260	ND	mg/Kg	0.12	12/4/06	SW8082	PG

Soil sample taken during collection trench at about IT-603.

ND = Not Detected

FIRSTECHNOLOGY, Inc.
4450 Johnston Parkway
eland, OH 44128

Firstechnology, Inc.

Phone: (216) 663-0808
Fax: (216) 663-0656

page 2-3 of report

IT-603

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	94393
		Sample Type:	Solid
		Sample Source:	
		Sampler's Name:	
		Client Sample ID:	Trench Till
Sample Date:	11/30/06		
Sample Time:	1:30:00 PM		
Receipt Date:	12/1/06 1:15:00 PM		
Report Date:	12/5/06		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Volatile Organic Compounds						
1,1,1-Trichloroethane	ND	ug/Kg	4.8	12/4/06	SW8260	AC
1,1,2,2-Tetrachloroethane	ND	ug/Kg	4.8	12/4/06	SW8260	AC
1,1,2-Trichloroethane	ND	ug/Kg	4.8	12/4/06	SW8260	AC
1,1-Dichloroethane	ND	ug/Kg	4.8	12/4/06	SW8260	AC
1,1-Dichloroethene	ND	ug/Kg	4.8	12/4/06	SW8260	AC
1,2-Dichloroethane	ND	ug/Kg	4.8	12/4/06	SW8260	AC
1,2-Dichloropropane	ND	ug/Kg	4.8	12/4/06	SW8260	AC
2-Butanone (MEK)	ND	ug/Kg	48	12/4/06	SW8260	AC
2-Hexanone	ND	ug/Kg	4.8	12/4/06	SW8260	AC
4-Methyl-2-Pentanone (MIBK)	ND	ug/Kg	48	12/4/06	SW8260	AC
Acetone	ND	ug/Kg	96	12/4/06	SW8260	AC
Benzene	ND	ug/Kg	4.8	12/4/06	SW8260	AC
Bromodichloromethane	ND	ug/Kg	4.8	12/4/06	SW8260	AC
Bromoform	ND	ug/Kg	4.8	12/4/06	SW8260	AC
Bromomethane	ND	ug/Kg	9.6	12/4/06	SW8260	AC
Carbon Disulfide	ND	ug/Kg	4.8	12/4/06	SW8260	AC
Carbon Tetrachloride	ND	ug/Kg	4.8	12/4/06	SW8260	AC
Chlorobenzene	ND	ug/Kg	4.8	12/4/06	SW8260	AC
Chloroethane	ND	ug/Kg	9.6	12/4/06	SW8260	AC
Chloroform	ND	ug/Kg	4.8	12/4/06	SW8260	AC
Chloromethane	ND	ug/Kg	9.6	12/4/06	SW8260	AC
cis-1,2-Dichloroethene	ND	ug/Kg	4.8	12/4/06	SW8260	AC
cis-1,3-Dichloropropene	ND	ug/Kg	4.8	12/4/06	SW8260	AC
Dibromochloromethane	ND	ug/Kg	4.8	12/4/06	SW8260	AC

ND = Not Detected

FIRSTECHNOLOGY, Inc.
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Cleveland, OH 44128
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Fax: (216) 663-0656

Firstechnology, Inc.

Page 2-3 of report
IT-603

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	94393
		Sample Type:	Solid
		Sample Source:	
		Sampler's Name:	
Sample Date:	11/30/06	**Client Sample ID:**	Trench Till
Sample Time:	1:30:00 PM		
Receipt Date:	12/1/06 1:15:00 PM		
Report Date:	12/5/06		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Volatile Organic Compounds						
Ethyl Benzene	ND	ug/Kg	4.8	12/4/06	SW8260	AC
m,p-Xylene	ND	ug/Kg	9.6	12/4/06	SW8260	AC
Methylene Chloride	ND	ug/Kg	9.6	12/4/06	SW8260	AC
o-Xylene	ND	ug/Kg	4.8	12/4/06	SW8260	AC
Styrene	ND	ug/Kg	4.8	12/4/06	SW8260	AC
Tetrachloroethene	ND	ug/Kg	4.8	12/4/06	SW8260	AC
Toluene	ND	ug/Kg	4.8	12/4/06	SW8260	AC
trans-1,2-Dichloroethene	ND	ug/Kg	4.8	12/4/06	SW8260	AC
trans-1,3-Dichloropropene	ND	ug/Kg	4.8	12/4/06	SW8260	AC
Trichloroethene	ND	ug/Kg	4.8	12/4/06	SW8260	AC
Vinyl Acetate	ND	ug/Kg	48	12/4/06	SW8260	AC
Vinyl Chloride	ND	ug/Kg	9.6	12/4/06	SW8260	AC

Mark Kalmeyer, Lab Director _____

Scott Bolam, QA/QC Officer _____

ND = Not Detected

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4450 Johnston Parkway
Cleveland, OH 44128

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Fax: (216) 663-0656

Firstechnology, Inc.

page 2-3 of report
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Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	94394
		Sample Type:	Liquid
		Sample Source:	
		Sampler's Name:	
Sample Date:	11/30/2006	**Client Sample ID:**	Trench Water
Sample Time:	1:30:00 PM		
Receipt Date:	12/1/2006 1:15:00 PM		
Report Date:	12/6/2006		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
PCBs						
PCB-1016	ND	ug/L	12	12/4/2006	SW8082	PG
PCB-1221	ND	ug/L	25	12/4/2006	SW8082	PG
PCB-1232	ND	ug/L	25	12/4/2006	SW8082	PG
PCB-1242	ND	ug/L	12	12/4/2006	SW8082	PG
PCB-1248	ND	ug/L	12	12/4/2006	SW8082	PG
PCB-1254	ND	ug/L	12	12/4/2006	SW8082	PG
PCB-1260	ND	ug/L	12	12/4/2006	SW8082	PG

Water sample taken during digging of collection trench at about IT-603.

ND = Not Detected

FIRSTECHNOLOGY, Inc.
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Firstechnology, Inc.

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IT-603

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	94394
		Sample Type:	Liquid
		Sample Source:	
		Sampler's Name:	
Sample Date:	11/30/2006	**Client Sample ID:**	Trench Water
Sample Time:	1:30:00 PM		
Receipt Date:	12/1/2006 1:15:00 PM		
Report Date:	12/6/2006		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Volatile Organic Compounds						
1,1,1-Trichloroethane	ND	ug/L	5	12/5/2006	SW8260	AC
1,1,2,2-Tetrachloroethane	ND	ug/L	5	12/5/2006	SW8260	AC
1,1,2-Trichloroethane	ND	ug/L	5	12/5/2006	SW8260	AC
1,1-Dichloroethane	ND	ug/L	5	12/5/2006	SW8260	AC
1,1-Dichloroethene	ND	ug/L	5	12/5/2006	SW8260	AC
1,2-Dichloroethane	ND	ug/L	5	12/5/2006	SW8260	AC
1,2-Dichloropropane	ND	ug/L	5	12/5/2006	SW8260	AC
2-Butanone (MEK)	ND	ug/L	50	12/5/2006	SW8260	AC
2-Hexanone	ND	ug/L	5	12/5/2006	SW8260	AC
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	50	12/5/2006	SW8260	AC
Acetone	ND	ug/L	100	12/5/2006	SW8260	AC
Benzene	ND	ug/L	5	12/5/2006	SW8260	AC
Bromodichloromethane	ND	ug/L	5	12/5/2006	SW8260	AC
Bromoform	ND	ug/L	5	12/5/2006	SW8260	AC
Bromomethane	ND	ug/L	10	12/5/2006	SW8260	AC
Carbon Disulfide	ND	ug/L	5	12/5/2006	SW8260	AC
Carbon Tetrachloride	ND	ug/L	5	12/5/2006	SW8260	AC
Chlorobenzene	ND	ug/L	5	12/5/2006	SW8260	AC
Chloroethane	ND	ug/L	10	12/5/2006	SW8260	AC
Chloroform	ND	ug/L	5	12/5/2006	SW8260	AC
Chloromethane	ND	ug/L	10	12/5/2006	SW8260	AC
cis-1,2-Dichloroethene	ND	ug/L	5	12/5/2006	SW8260	AC
cis-1,3-Dichloropropene	ND	ug/L	5	12/5/2006	SW8260	AC
Dibromochloromethane	ND	ug/L	5	12/5/2006	SW8260	AC
Ethyl Benzene	ND	ug/L	5	12/5/2006	SW8260	AC

ND = Not Detected

FIRSTECHNOLOGY, Inc.
4450 Johnston Parkway
Cleveland, OH 44128

Phone: (216) 663-0808
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Firstechnology, Inc.

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IT-603

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	94394
		Sample Type:	Liquid
		Sample Source:	
		Sampler's Name:	
Sample Date:	11/30/2006	**Client Sample ID:**	Trench Water
Sample Time:	1:30:00 PM		
Receipt Date:	12/1/2006 1:15:00 PM		
Report Date:	12/6/2006		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Volatile Organic Compounds						
m,p-Xylene	ND	ug/L	10	12/5/2006	SW8260	AC
Methylene Chloride	ND	ug/L	5	12/5/2006	SW8260	AC
o-Xylene	ND	ug/L	5	12/5/2006	SW8260	AC
Styrene	ND	ug/L	5	12/5/2006	SW8260	AC
Tetrachloroethene	ND	ug/L	5	12/5/2006	SW8260	AC
Toluene	ND	ug/L	5	12/5/2006	SW8260	AC
trans-1,2-Dichloroethene	ND	ug/L	5	12/5/2006	SW8260	AC
trans-1,3-Dichloropropene	ND	ug/L	5	12/5/2006	SW8260	AC
Trichloroethene	ND	ug/L	5	12/5/2006	SW8260	AC
Vinyl Acetate	ND	ug/L	50	12/5/2006	SW8260	AC
Vinyl Chloride	ND	ug/L	10	12/5/2006	SW8260	AC

Mark Kalmeyer, Lab Director _____

Scott Bolam, QA/QC Officer _____

ND = Not Detected

FIRSTECHNOLOGY, Inc.
4450 Johnston Parkway
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Fax: (216) 663-0656

Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95226
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/20/2006	**Sampler's Name:**	KB
Sample Time:	1:00:00 PM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 150
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Inorganic Group						
Total Solids	71.20	%	0.01	1/5/2007	SM2540 G	WSS
Semi-Volatile Organic Compounds						
1,2,4-Trichlorobenzene	ND	ug/Kg	470	1/2/2007	SW8270	AC
1,2-Dichlorobenzene	ND	ug/Kg	470	1/2/2007	SW8270	AC
1,3-Dichlorobenzene	ND	ug/Kg	470	1/2/2007	SW8270	AC
1,4-Dichlorobenzene	ND	ug/Kg	470	1/2/2007	SW8270	AC
2,4,5-Trichlorophenol	ND	ug/Kg	470	1/2/2007	SW8270	AC
2,4,6-Trichlorophenol	ND	ug/Kg	470	1/2/2007	SW8270	AC
2,4-Dichlorophenol	ND	ug/Kg	470	1/2/2007	SW8270	AC
2,4-Dimethylphenol	ND	ug/Kg	470	1/2/2007	SW8270	AC
2,4-Dinitrophenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
2,4-Dinitrotoluene	ND	ug/Kg	470	1/2/2007	SW8270	AC
2,6-Dinitrotoluene	ND	ug/Kg	470	1/2/2007	SW8270	AC
2-Chloronaphthalene	ND	ug/Kg	470	1/2/2007	SW8270	AC
2-Chlorophenol	ND	ug/Kg	470	1/2/2007	SW8270	AC
2-Methylnaphthalene	ND	ug/Kg	470	1/2/2007	SW8270	AC
2-Methylphenol	ND	ug/Kg	470	1/2/2007	SW8270	AC
2-Nitroaniline	ND	ug/Kg	470	1/2/2007	SW8270	AC
2-Nitrophenol	ND	ug/Kg	470	1/2/2007	SW8270	AC
3&4-Methylphenol	ND	ug/Kg	940	1/2/2007	SW8270	AC
3,3'-Dichlorobenzidine	ND	ug/Kg	940	1/2/2007	SW8270	AC
3-Nitroaniline	ND	ug/Kg	470	1/2/2007	SW8270	AC
4,6-Dinitro-2-Methylphenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
4-Bromophenyl-phenylether	ND	ug/Kg	470	1/2/2007	SW8270	AC

ND = Not Detected

FIRSTECHNOLOGY, Inc.
4450 Johnston Parkway
Cleveland, OH 44128
Phone: (216) 663-0808
Fax: (216) 663-0656

Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95226
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/20/2006	**Sampler's Name:**	KB
Sample Time:	1:00:00 PM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 150
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Semi-Volatile Organic Compounds						
4-Chloro-3-Methylphenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
4-Chloroaniline	ND	ug/Kg	470	1/2/2007	SW8270	AC
4-Chlorophenyl-phenylether	ND	ug/Kg	470	1/2/2007	SW8270	AC
4-Nitroaniline	ND	ug/Kg	470	1/2/2007	SW8270	AC
4-Nitrophenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
Acenaphthene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Acenaphthylene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Anthracene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Benzo(A)anthracene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Benzo(A)pyrene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Benzo(B)fluoranthene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Benzo(G,H,I)perylene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Benzo(K)fluoranthene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Benzoic Acid	ND	ug/Kg	940	1/2/2007	SW8270	AC
Benzyl Alcohol	ND	ug/Kg	470	1/2/2007	SW8270	AC
bis(2-Chlorethoxy)methane	ND	ug/Kg	470	1/2/2007	SW8270	AC
bis(2-Chloroethyl)ether	ND	ug/Kg	470	1/2/2007	SW8270	AC
bis(2-Chloroisopropyl)ether	ND	ug/Kg	470	1/2/2007	SW8270	AC
bis(2-Ethylhexyl)phthalate	ND	ug/Kg	470	1/2/2007	SW8270	AC
Butylbenzylphthalate	ND	ug/Kg	470	1/2/2007	SW8270	AC
Chrysene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Di-n-butylphthalate	482	ug/Kg	470	1/2/2007	SW8270	AC
Di-n-octylphthalate	ND	ug/Kg	470	1/2/2007	SW8270	AC
Dibenz(a,h)anthracene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Dibenzofuran	ND	ug/Kg	470	1/2/2007	SW8270	AC

ND = Not Detected

FIRSTECHNOLOGY, Inc.
4450 Johnston Parkway
Cleveland, OH 44128
Phone: (216) 663-0808
Fax: (216) 663-0656

Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95226
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/20/2006	**Sampler's Name:**	KB
Sample Time:	1:00:00 PM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 150
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Semi-Volatile Organic Compounds						
Diethylphthalate	ND	ug/Kg	470	1/2/2007	SW8270	AC
Dimethylphthalate	ND	ug/Kg	470	1/2/2007	SW8270	AC
Fluoranthene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Fluorene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Hexachlorobenzene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Hexachlorobutadiene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Hexachlorocyclopentadiene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Hexachloroethane	ND	ug/Kg	470	1/2/2007	SW8270	AC
Indeno(1,2,3-cd)pyrene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Isophorone	ND	ug/Kg	470	1/2/2007	SW8270	AC
N-Nitrosodi-n-propylamine	ND	ug/Kg	470	1/2/2007	SW8270	AC
N-Nitrosodiphenylamine	ND	ug/Kg	470	1/2/2007	SW8270	AC
Naphthalene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Nitrobenzene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Pentachlorophenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
Phenanthrene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Phenol	ND	ug/Kg	470	1/2/2007	SW8270	AC
Pyrene	ND	ug/Kg	470	1/2/2007	SW8270	AC
Pyridine	ND	ug/Kg	470	1/2/2007	SW8270	AC

ND = Not Detected

FIRSTECHNOLOGY, Inc.
4450 Johnston Parkway
Cleveland, OH 44128
Phone: (216) 663-0808
Fax: (216) 663-0656

Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95226
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/20/2006	**Sampler's Name:**	KB
Sample Time:	1:00:00 PM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 150
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Volatile Organic Compounds						
1,1,1-Trichloroethane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
1,1,2,2-Tetrachloroethane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
1,1,2-Trichloroethane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
1,1-Dichloroethane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
1,1-Dichloroethene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
1,2-Dichloroethane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
1,2-Dichloropropane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
2-Butanone (MEK)	ND	ug/Kg	58	12/23/2006	SW8260	AC
2-Hexanone	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
4-Methyl-2-Pentanone (MIBK)	ND	ug/Kg	58	12/23/2006	SW8260	AC
Acetone	ND	ug/Kg	120	12/23/2006	SW8260	AC
Benzene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Bromodichloromethane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Bromoform	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Bromomethane	ND	ug/Kg	12	12/23/2006	SW8260	AC
Carbon Disulfide	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Carbon Tetrachloride	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Chlorobenzene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Chloroethane	ND	ug/Kg	12	12/23/2006	SW8260	AC
Chloroform	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Chloromethane	ND	ug/Kg	12	12/23/2006	SW8260	AC
cis-1,2-Dichloroethene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
cis-1,3-Dichloropropene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Dibromochloromethane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC

ND = Not Detected

FIRSTECHNOLOGY, Inc.
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Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95226
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/20/2006	**Sampler's Name:**	KB
Sample Time:	1:00:00 PM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 150
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Volatile Organic Compounds						
Ethyl Benzene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
m,p-Xylene	ND	ug/Kg	12	12/23/2006	SW8260	AC
Methylene Chloride	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
o-Xylene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Styrene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Tetrachloroethene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Toluene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
trans-1,2-Dichloroethene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
trans-1,3-Dichloropropene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Trichloroethene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Vinyl Acetate	ND	ug/Kg	58	12/23/2006	SW8260	AC
Vinyl Chloride	ND	ug/Kg	12	12/23/2006	SW8260	AC

Mark Kalmeyer, Lab Director _____

Scott Bolam, QA/QC Officer _____

ND = Not Detected

Comment: Results and Detection Limits are reported on a dry weight basis (except for Total Solids).

FIRSTECHNOLOGY, Inc.
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Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95227
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/20/2006	**Sampler's Name:**	KB
Sample Time:	3:15:00 PM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 180
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Inorganic Group						
Total Solids	72.89	%	0.01	1/5/2007	SM2540 G	WSS
Semi-Volatile Organic Compounds						
1,2,4-Trichlorobenzene	ND	ug/Kg	460	1/2/2007	SW8270	AC
1,2-Dichlorobenzene	ND	ug/Kg	460	1/2/2007	SW8270	AC
1,3-Dichlorobenzene	ND	ug/Kg	460	1/2/2007	SW8270	AC
1,4-Dichlorobenzene	ND	ug/Kg	460	1/2/2007	SW8270	AC
2,4,5-Trichlorophenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
2,4,6-Trichlorophenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
2,4-Dichlorophenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
2,4-Dimethylphenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
2,4-Dinitrophenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
2,4-Dinitrotoluene	ND	ug/Kg	460	1/2/2007	SW8270	AC
2,6-Dinitrotoluene	ND	ug/Kg	460	1/2/2007	SW8270	AC
2-Chloronaphthalene	ND	ug/Kg	460	1/2/2007	SW8270	AC
2-Chlorophenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
2-Methylnaphthalene	ND	ug/Kg	460	1/2/2007	SW8270	AC
2-Methylphenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
2-Nitroaniline	ND	ug/Kg	460	1/2/2007	SW8270	AC
2-Nitrophenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
3&4-Methylphenol	ND	ug/Kg	910	1/2/2007	SW8270	AC
3,3'-Dichlorobenzidine	ND	ug/Kg	910	1/2/2007	SW8270	AC
3-Nitroaniline	ND	ug/Kg	460	1/2/2007	SW8270	AC
4,6-Dinitro-2-Methylphenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
4-Bromophenyl-phenylether	ND	ug/Kg	460	1/2/2007	SW8270	AC

ND = Not Detected

FIRSTECHNOLOGY, Inc.
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Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95227
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/20/2006	**Sampler's Name:**	KB
Sample Time:	3:15:00 PM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 180
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Semi-Volatile Organic Compounds						
4-Chloro-3-Methylphenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
4-Chloroaniline	ND	ug/Kg	460	1/2/2007	SW8270	AC
4-Chlorophenyl-phenylether	ND	ug/Kg	460	1/2/2007	SW8270	AC
4-Nitroaniline	ND	ug/Kg	460	1/2/2007	SW8270	AC
4-Nitrophenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
Acenaphthene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Acenaphthylene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Anthracene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Benzo(A)anthracene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Benzo(A)pyrene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Benzo(B)fluoranthene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Benzo(G,H,I)perylene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Benzo(K)fluoranthene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Benzoic Acid	ND	ug/Kg	910	1/2/2007	SW8270	AC
Benzyl Alcohol	ND	ug/Kg	460	1/2/2007	SW8270	AC
bis(2-Chlorethoxy)methane	ND	ug/Kg	460	1/2/2007	SW8270	AC
bis(2-Chloroethyl)ether	ND	ug/Kg	460	1/2/2007	SW8270	AC
bis(2-Chloroisopropyl)ether	ND	ug/Kg	460	1/2/2007	SW8270	AC
bis(2-Ethylhexyl)phthalate	ND	ug/Kg	460	1/2/2007	SW8270	AC
Butylbenzylphthalate	ND	ug/Kg	460	1/2/2007	SW8270	AC
Chrysene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Di-n-butylphthalate	ND	ug/Kg	460	1/2/2007	SW8270	AC
Di-n-octylphthalate	ND	ug/Kg	460	1/2/2007	SW8270	AC
Dibenz(a,h)anthracene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Dibenzofuran	ND	ug/Kg	460	1/2/2007	SW8270	AC

ND = Not Detected

FIRSTECHNOLOGY, Inc.
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Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95227
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/20/2006	**Sampler's Name:**	KB
Sample Time:	3:15:00 PM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 180
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Semi-Volatile Organic Compounds						
Diethylphthalate	ND	ug/Kg	460	1/2/2007	SW8270	AC
Dimethylphthalate	ND	ug/Kg	460	1/2/2007	SW8270	AC
Fluoranthene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Fluorene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Hexachlorobenzene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Hexachlorobutadiene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Hexachlorocyclopentadiene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Hexachloroethane	ND	ug/Kg	460	1/2/2007	SW8270	AC
Indeno(1,2,3-cd)pyrene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Isophorone	ND	ug/Kg	460	1/2/2007	SW8270	AC
N-Nitrosodi-n-propylamine	ND	ug/Kg	460	1/2/2007	SW8270	AC
N-Nitrosodiphenylamine	ND	ug/Kg	460	1/2/2007	SW8270	AC
Naphthalene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Nitrobenzene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Pentachlorophenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
Phenanthrene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Phenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
Pyrene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Pyridine	ND	ug/Kg	460	1/2/2007	SW8270	AC

ND = Not Detected

FIRSTECHNOLOGY, Inc.
4450 Johnston Parkway
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Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95227
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/20/2006	**Sampler's Name:**	KB
Sample Time:	3:15:00 PM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 180
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Volatile Organic Compounds						
1,1,1-Trichloroethane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
1,1,2,2-Tetrachloroethane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
1,1,2-Trichloroethane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
1,1-Dichloroethane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
1,1-Dichloroethene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
1,2-Dichloroethane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
1,2-Dichloropropane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
2-Butanone (MEK)	ND	ug/Kg	58	12/23/2006	SW8260	AC
2-Hexanone	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
4-Methyl-2-Pentanone (MIBK)	ND	ug/Kg	58	12/23/2006	SW8260	AC
Acetone	ND	ug/Kg	120	12/23/2006	SW8260	AC
Benzene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Bromodichloromethane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Bromoform	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Bromomethane	ND	ug/Kg	12	12/23/2006	SW8260	AC
Carbon Disulfide	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Carbon Tetrachloride	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Chlorobenzene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Chloroethane	ND	ug/Kg	12	12/23/2006	SW8260	AC
Chloroform	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Chloromethane	ND	ug/Kg	12	12/23/2006	SW8260	AC
cis-1,2-Dichloroethene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
cis-1,3-Dichloropropene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Dibromochloromethane	ND	ug/Kg	5.8	12/23/2006	SW8260	AC

ND = Not Detected

FIRSTECHNOLOGY, Inc.
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Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95227
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/20/2006	**Sampler's Name:**	KB
Sample Time:	3:15:00 PM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 180
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Volatile Organic Compounds						
Ethyl Benzene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
m,p-Xylene	ND	ug/Kg	12	12/23/2006	SW8260	AC
Methylene Chloride	10.9	ug/Kg	5.8	12/23/2006	SW8260	AC
o-Xylene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Styrene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Tetrachloroethene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Toluene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
trans-1,2-Dichloroethene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
trans-1,3-Dichloropropene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Trichloroethene	ND	ug/Kg	5.8	12/23/2006	SW8260	AC
Vinyl Acetate	ND	ug/Kg	58	12/23/2006	SW8260	AC
Vinyl Chloride	ND	ug/Kg	12	12/23/2006	SW8260	AC

Mark Kalmeyer, Lab Director _____

Scott Bolam, QA/QC Officer _____

ND = Not Detected

Comment: Results and Detection Limits are reported on a dry weight basis (except for Total Solids).

FIRSTECHNOLOGY, Inc.
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Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95228
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/21/2006	**Sampler's Name:**	KB
Sample Time:	8:40:00 AM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 200
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Inorganic Group						
Total Solids	72.78	%	0.01	1/5/2007	SM2540 G	WSS
Semi-Volatile Organic Compounds						
1,2,4-Trichlorobenzene	ND	ug/Kg	460	1/2/2007	SW8270	AC
1,2-Dichlorobenzene	ND	ug/Kg	460	1/2/2007	SW8270	AC
1,3-Dichlorobenzene	ND	ug/Kg	460	1/2/2007	SW8270	AC
1,4-Dichlorobenzene	ND	ug/Kg	460	1/2/2007	SW8270	AC
2,4,5-Trichlorophenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
2,4,6-Trichlorophenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
2,4-Dichlorophenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
2,4-Dimethylphenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
2,4-Dinitrophenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
2,4-Dinitrotoluene	ND	ug/Kg	460	1/2/2007	SW8270	AC
2,6-Dinitrotoluene	ND	ug/Kg	460	1/2/2007	SW8270	AC
2-Chloronaphthalene	ND	ug/Kg	460	1/2/2007	SW8270	AC
2-Chlorophenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
2-Methylnaphthalene	ND	ug/Kg	460	1/2/2007	SW8270	AC
2-Methylphenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
2-Nitroaniline	ND	ug/Kg	460	1/2/2007	SW8270	AC
2-Nitrophenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
3&4-Methylphenol	ND	ug/Kg	920	1/2/2007	SW8270	AC
3,3'-Dichlorobenzidine	ND	ug/Kg	920	1/2/2007	SW8270	AC
3-Nitroaniline	ND	ug/Kg	460	1/2/2007	SW8270	AC
4,6-Dinitro-2-Methylphenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
4-Bromophenyl-phenylether	ND	ug/Kg	460	1/2/2007	SW8270	AC

ND = Not Detected

FIRSTECHNOLOGY, Inc.
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Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95228
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/21/2006	**Sampler's Name:**	KB
Sample Time:	8:40:00 AM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 200
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Semi-Volatile Organic Compounds						
4-Chloro-3-Methylphenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
4-Chloroaniline	ND	ug/Kg	460	1/2/2007	SW8270	AC
4-Chlorophenyl-phenylether	ND	ug/Kg	460	1/2/2007	SW8270	AC
4-Nitroaniline	ND	ug/Kg	460	1/2/2007	SW8270	AC
4-Nitrophenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
Acenaphthene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Acenaphthylene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Anthracene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Benzo(A)anthracene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Benzo(A)pyrene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Benzo(B)fluoranthene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Benzo(G,H,I)perylene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Benzo(K)fluoranthene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Benzoic Acid	ND	ug/Kg	920	1/2/2007	SW8270	AC
Benzyl Alcohol	ND	ug/Kg	460	1/2/2007	SW8270	AC
bis(2-Chlorethoxy)methane	ND	ug/Kg	460	1/2/2007	SW8270	AC
bis(2-Chloroethyl)ether	ND	ug/Kg	460	1/2/2007	SW8270	AC
bis(2-Chloroisopropyl)ether	ND	ug/Kg	460	1/2/2007	SW8270	AC
bis(2-Ethylhexyl)phthalate	ND	ug/Kg	460	1/2/2007	SW8270	AC
Butylbenzylphthalate	ND	ug/Kg	460	1/2/2007	SW8270	AC
Chrysene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Di-n-butylphthalate	ND	ug/Kg	460	1/2/2007	SW8270	AC
Di-n-octylphthalate	ND	ug/Kg	460	1/2/2007	SW8270	AC
Dibenz(a,h)anthracene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Dibenzofuran	ND	ug/Kg	460	1/2/2007	SW8270	AC

ND = Not Detected

FIRSTECHNOLOGY, Inc.
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Cleveland, OH 44128
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Fax: (216) 663-0656

Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95228
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/21/2006	**Sampler's Name:**	KB
Sample Time:	8:40:00 AM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 200
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Semi-Volatile Organic Compounds						
Diethylphthalate	ND	ug/Kg	460	1/2/2007	SW8270	AC
Dimethylphthalate	ND	ug/Kg	460	1/2/2007	SW8270	AC
Fluoranthene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Fluorene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Hexachlorobenzene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Hexachlorobutadiene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Hexachlorocyclopentadiene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Hexachloroethane	ND	ug/Kg	460	1/2/2007	SW8270	AC
Indeno(1,2,3-cd)pyrene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Isophorone	ND	ug/Kg	460	1/2/2007	SW8270	AC
N-Nitrosodi-n-propylamine	ND	ug/Kg	460	1/2/2007	SW8270	AC
N-Nitrosodiphenylamine	ND	ug/Kg	460	1/2/2007	SW8270	AC
Naphthalene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Nitrobenzene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Pentachlorophenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
Phenanthrene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Phenol	ND	ug/Kg	460	1/2/2007	SW8270	AC
Pyrene	ND	ug/Kg	460	1/2/2007	SW8270	AC
Pyridine	ND	ug/Kg	460	1/2/2007	SW8270	AC

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Report of Analysis

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		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/21/2006	**Sampler's Name:**	KB
Sample Time:	8:40:00 AM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 200
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Volatile Organic Compounds						
1,1,1-Trichloroethane	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
1,1,2,2-Tetrachloroethane	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
1,1,2-Trichloroethane	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
1,1-Dichloroethane	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
1,1-Dichloroethene	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
1,2-Dichloroethane	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
1,2-Dichloropropane	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
2-Butanone (MEK)	ND	ug/Kg	69	12/23/2006	SW8260	AC
2-Hexanone	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
4-Methyl-2-Pentanone (MIBK)	ND	ug/Kg	69	12/23/2006	SW8260	AC
Acetone	ND	ug/Kg	140	12/23/2006	SW8260	AC
Benzene	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
Bromodichloromethane	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
Bromoform	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
Bromomethane	ND	ug/Kg	14	12/23/2006	SW8260	AC
Carbon Disulfide	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
Carbon Tetrachloride	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
Chlorobenzene	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
Chloroethane	ND	ug/Kg	14	12/23/2006	SW8260	AC
Chloroform	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
Chloromethane	ND	ug/Kg	14	12/23/2006	SW8260	AC
cis-1,2-Dichloroethene	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
cis-1,3-Dichloropropene	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
Dibromochloromethane	ND	ug/Kg	6.9	12/23/2006	SW8260	AC

ND = Not Detected

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Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95228
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/21/2006	**Sampler's Name:**	KB
Sample Time:	8:40:00 AM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 200
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Volatile Organic Compounds						
Ethyl Benzene	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
m,p-Xylene	ND	ug/Kg	14	12/23/2006	SW8260	AC
Methylene Chloride	12.9	ug/Kg	6.9	12/23/2006	SW8260	AC
o-Xylene	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
Styrene	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
Tetrachloroethene	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
Toluene	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
trans-1,2-Dichloroethene	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
trans-1,3-Dichloropropene	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
Trichloroethene	ND	ug/Kg	6.9	12/23/2006	SW8260	AC
Vinyl Acetate	ND	ug/Kg	69	12/23/2006	SW8260	AC
Vinyl Chloride	ND	ug/Kg	14	12/23/2006	SW8260	AC

Mark Kalmeyer, Lab Director _____

Scott Bolam, QA/QC Officer _____

ND = Not Detected

Comment: Results and Detection Limits are reported on a dry weight basis (except for Total Solids).

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Report of Analysis

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		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/21/2006	**Sampler's Name:**	KB
Sample Time:	11:50:00 AM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 235
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Inorganic Group						
Total Solids	73.28	%	0.01	1/5/2007	SM2540 G	WSS
Semi-Volatile Organic Compounds						
1,2,4-Trichlorobenzene	ND	ug/Kg	450	1/2/2007	SW8270	AC
1,2-Dichlorobenzene	ND	ug/Kg	450	1/2/2007	SW8270	AC
1,3-Dichlorobenzene	ND	ug/Kg	450	1/2/2007	SW8270	AC
1,4-Dichlorobenzene	ND	ug/Kg	450	1/2/2007	SW8270	AC
2,4,5-Trichlorophenol	ND	ug/Kg	450	1/2/2007	SW8270	AC
2,4,6-Trichlorophenol	ND	ug/Kg	450	1/2/2007	SW8270	AC
2,4-Dichlorophenol	ND	ug/Kg	450	1/2/2007	SW8270	AC
2,4-Dimethylphenol	ND	ug/Kg	450	1/2/2007	SW8270	AC
2,4-Dinitrophenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
2,4-Dinitrotoluene	ND	ug/Kg	450	1/2/2007	SW8270	AC
2,6-Dinitrotoluene	ND	ug/Kg	450	1/2/2007	SW8270	AC
2-Chloronaphthalene	ND	ug/Kg	450	1/2/2007	SW8270	AC
2-Chlorophenol	ND	ug/Kg	450	1/2/2007	SW8270	AC
2-Methylnaphthalene	ND	ug/Kg	450	1/2/2007	SW8270	AC
2-Methylphenol	ND	ug/Kg	450	1/2/2007	SW8270	AC
2-Nitroaniline	ND	ug/Kg	450	1/2/2007	SW8270	AC
2-Nitrophenol	ND	ug/Kg	450	1/2/2007	SW8270	AC
3&4-Methylphenol	ND	ug/Kg	910	1/2/2007	SW8270	AC
3,3'-Dichlorobenzidine	ND	ug/Kg	910	1/2/2007	SW8270	AC
3-Nitroaniline	ND	ug/Kg	450	1/2/2007	SW8270	AC
4,6-Dinitro-2-Methylphenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
4-Bromophenyl-phenylether	ND	ug/Kg	450	1/2/2007	SW8270	AC

ND= Not Detected

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Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95229
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/21/2006	**Sampler's Name:**	KB
Sample Time:	11:50:00 AM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 235
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Semi-Volatile Organic Compounds						
4-Chloro-3-Methylphenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
4-Chloroaniline	ND	ug/Kg	450	1/2/2007	SW8270	AC
4-Chlorophenyl-phenylether	ND	ug/Kg	450	1/2/2007	SW8270	AC
4-Nitroaniline	ND	ug/Kg	450	1/2/2007	SW8270	AC
4-Nitrophenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
Acenaphthene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Acenaphthylene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Anthracene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Benzo(A)anthracene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Benzo(A)pyrene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Benzo(B)fluoranthene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Benzo(G,H,I)perylene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Benzo(K)fluoranthene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Benzoic Acid	ND	ug/Kg	910	1/2/2007	SW8270	AC
Benzyl Alcohol	ND	ug/Kg	450	1/2/2007	SW8270	AC
bis(2-Chlorethoxy)methane	ND	ug/Kg	450	1/2/2007	SW8270	AC
bis(2-Chloroethyl)ether	ND	ug/Kg	450	1/2/2007	SW8270	AC
bis(2-Chloroisopropyl)ether	ND	ug/Kg	450	1/2/2007	SW8270	AC
bis(2-Ethylhexyl)phthalate	ND	ug/Kg	450	1/2/2007	SW8270	AC
Butylbenzylphthalate	ND	ug/Kg	450	1/2/2007	SW8270	AC
Chrysene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Di-n-butylphthalate	ND	ug/Kg	450	1/2/2007	SW8270	AC
Di-n-octylphthalate	ND	ug/Kg	450	1/2/2007	SW8270	AC
Dibenz(a,h)anthracene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Dibenzofuran	ND	ug/Kg	450	1/2/2007	SW8270	AC

ND = Not Detected

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Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95229
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/21/2006	**Sampler's Name:**	KB
Sample Time:	11:50:00 AM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 235
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Semi-Volatile Organic Compounds						
Diethylphthalate	ND	ug/Kg	450	1/2/2007	SW8270	AC
Dimethylphthalate	ND	ug/Kg	450	1/2/2007	SW8270	AC
Fluoranthene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Fluorene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Hexachlorobenzene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Hexachlorobutadiene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Hexachlorocyclopentadiene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Hexachloroethane	ND	ug/Kg	450	1/2/2007	SW8270	AC
Indeno(1,2,3-cd)pyrene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Isophorone	ND	ug/Kg	450	1/2/2007	SW8270	AC
N-Nitrosodi-n-propylamine	ND	ug/Kg	450	1/2/2007	SW8270	AC
N-Nitrosodiphenylamine	ND	ug/Kg	450	1/2/2007	SW8270	AC
Naphthalene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Nitrobenzene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Pentachlorophenol	ND	ug/Kg	2300	1/2/2007	SW8270	AC
Phenanthrene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Phenol	ND	ug/Kg	450	1/2/2007	SW8270	AC
Pyrene	ND	ug/Kg	450	1/2/2007	SW8270	AC
Pyridine	ND	ug/Kg	450	1/2/2007	SW8270	AC

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Report of Analysis

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		Sample Source:	
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Sample Time:	11:50:00 AM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 235
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Volatile Organic Compounds						
1,1,1-Trichloroethane	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
1,1,2,2-Tetrachloroethane	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
1,1,2-Trichloroethane	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
1,1-Dichloroethane	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
1,1-Dichloroethene	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
1,2-Dichloroethane	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
1,2-Dichloropropane	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
2-Butanone (MEK)	ND	ug/Kg	65	12/23/2006	SW8260	AC
2-Hexanone	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
4-Methyl-2-Pentanone (MIBK)	ND	ug/Kg	65	12/23/2006	SW8260	AC
Acetone	ND	ug/Kg	130	12/23/2006	SW8260	AC
Benzene	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
Bromodichloromethane	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
Bromoform	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
Bromomethane	ND	ug/Kg	13	12/23/2006	SW8260	AC
Carbon Disulfide	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
Carbon Tetrachloride	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
Chlorobenzene	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
Chloroethane	ND	ug/Kg	13	12/23/2006	SW8260	AC
Chloroform	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
Chloromethane	ND	ug/Kg	13	12/23/2006	SW8260	AC
cis-1,2-Dichloroethene	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
cis-1,3-Dichloropropene	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
Dibromochloromethane	ND	ug/Kg	6.5	12/23/2006	SW8260	AC

ND = Not Detected

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Firstechnology, Inc.

Report of Analysis

Name:	Attn: Jim Vence Detrex Corporation 1100 N. State Rd. Ashtabula, OH 44004	**Sample ID#**	95229
		Sample Type:	Soil
		Sample Source:	
Sample Date:	12/21/2006	**Sampler's Name:**	KB
Sample Time:	11:50:00 AM		
Receipt Date:	12/22/2006 1:00:00 PM	**Client Sample ID:**	ITS 235
Report Date:	1/8/2007		
Sample Site:			

Parameter	Sample Result	Units	Minimum Detection Level	Analysis Date	Method #	Analyst
Volatile Organic Compounds						
Ethyl Benzene	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
m,p-Xylene	ND	ug/Kg	13	12/23/2006	SW8260	AC
Methylene Chloride	17.5	ug/Kg	6.5	12/23/2006	SW8260	AC
o-Xylene	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
Styrene	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
Tetrachloroethene	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
Toluene	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
trans-1,2-Dichloroethene	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
trans-1,3-Dichloropropene	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
Trichloroethene	ND	ug/Kg	6.5	12/23/2006	SW8260	AC
Vinyl Acetate	ND	ug/Kg	65	12/23/2006	SW8260	AC
Vinyl Chloride	ND	ug/Kg	13	12/23/2006	SW8260	AC

Mark Kalmeyer, Lab Director _____

Scott Bolam, QA/QC Officer _____

ND = Not Detected

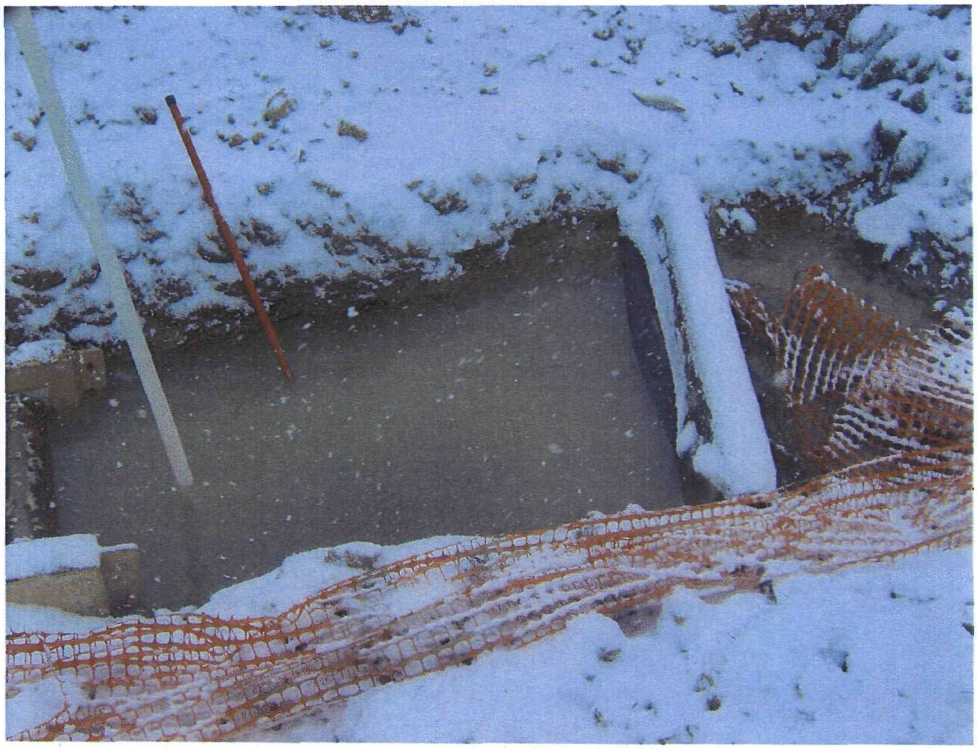
Comment: Results and Detection Limits are reported on a dry weight basis (except for Total Solids).

Appendix B

GWIT Construction and Installation Photographic Log

PHOTOGRAPH 1: East of GWIT Sump #2, during GWIT pipe installation (See orange safety fence).

PHOTOGRAPH 2: GWIT Sump #2 excavation filled with water (before water was pumped).



PHOTOGRAPH 3: GWIT collection trench east of GWIT Sump #2 filled with water (before water was pumped from GWIT Sump #2).

PHOTOGRAPH 4: GWIT collection trench east of GWIT Sump #2, trench box filled with water (before water was pumped from GWIT Sump #2).

PHOTOGRAPH 5: GWIT Sump #2 showing exterior cracking to the third riser section.

PHOTOGRAPH 6: GWIT Sump #2 showing exterior cracking to the third riser section and the surrounding area following water pumping.

PHOTOGRAPH 7: Gray glacial till to the northwest of GWIT Sump #2 prior to the installation of GWIT collection pipe.

PHOTOGRAPH 8: Sample well located approximately 100' east of GWIT Sump #2.

PHOTOGRAPH 9: Completed installation of the GWIT collection system east of GWIT Sump #2. GWIT pipe location is identified by the three sample wells spaced approximately 100' apart.

PHOTOGRAPH 10: West of GWIT Sump #2, SunPro employee inside trench box grading gravel before laying GWIT collection pipe.

PHOTOGRAPH 11: West of GWIT Sump #2. Trench is excavated, GWIT pipe installed, trench is backfilled with gravel and trench box is moved.

PHOTOGRAPH 12: West of GWIT Sump #2, Gray glacial till layer is visible where GWIT pipe is being placed.

PHOTOGRAPH 13: Completed section of GWIT collection system east of GWIT Sump #2. Snow melted and sample wells are visible.

PHOTOGRAPH 14: Gray glacial till is visible west of GWIT Sump #2 where GWIT collection pipe is being installed.

PHOTOGRAPH 15: Gray glacial till is visible below the trench box as GWIT collection pipe is being installed.

PHOTOGRAPH 16: GWIT Sump #2 after backfilling. GWIT Sump pump is used to pump GWIT collection water to the Waste Water Treatment collection GWIT Sump to the south.

PHOTOGRAPH 17: West of GWIT Sump #2. GWIT collection system is being placed on a 5% grade using a laser level.

PHOTOGRAPH 18: West of GWIT Sump #2. Gravel is used to backfill the trench above the GWIT pipe to within 4' of surface grade.

PHOTOGRAPH 19: West of GWIT Sump #2. A sample well is placed at the northwest limit of the GWIT collection system.

PHOTOGRAPH 20: West of GWIT Sump #2. Final section of the GWIT collection system is backfilled with gravel to within 4' of surface grade.

PHOTOGRAPH 21: West of GWIT Sump #2. Filter fabric is cut and placed around the sample well.

PHOTOGRAPH 22: GWIT Sump #3 placement is determined and excavation is started.

PHOTOGRAPH 23: GWIT Sump #3 excavation. GWIT Sump #3 is placed within the gray glacial till layer.

PHOTOGRAPH 24: Depth of GWIT Sump #3 excavation is measured before the first section of the GWIT Sump is placed.

PHOTOGRAPH 25: Boom is placed in Fields Brook creek to collect sheen that could be released south of the 42" sewer pipe.

PHOTOGRAPH 26: The base of GWIT Sump #3 is placed and leveled.

PHOTOGRAPH 27: The fourth section of GWIT Sump #3 is oriented the placed on top of third section.

PHOTOGRAPH 28: GWIT Sump #3 excavation to the west showing placement of GWIT Sump and GWIT collection pipe in the gray glacial till layer.

PHOTOGRAPH 29: Backfilling of the GWIT collection system west of GWIT Sump #3. Installation of this section is almost complete to State Road.

PHOTOGRAPH 30: Extremely muddy conditions encountered during the installation of the GWIT collection system west of GWIT Sump #3.

PHOTOGRAPH 31: Extremely muddy conditions encountered during the installation of the GWIT collection system west of GWIT Sump #3.

PHOTOGRAPH 32: Clay terracotta drainage pipe released water when damaged during the excavated of GWIT Sump #1.

PHOTOGRAPH 33: Water released from the clay terracotta pipe continued to accumulate in the excavated GWIT Sump hole.

PHOTOGRAPH 34: Surface water released from the clay terracotta pipe was pumped from the GWIT Sump hole.

PHOTOGRAPH 35: A GWIT Sump hole was excavated north GWIT Sump #1 to collect surface water before it entered the installation location.

PHOTOGRAPH 36: Surface water released from the clay terracotta pipe was pumped from the GWIT Sump hole during the installation of GWIT Sump #1.

PHOTOGRAPH 37: West of GWIT Sump #3 after the GWIT collection system was installed and backfilled. Note the sample well located at the west limit of the GWIT collection system close to State Road.

PHOTOGRAPH 38: Surface water that was accumulating in the GWIT Sump hole during the installation of GWIT Sump #1 and the GWIT collection system

PHOTOGRAPH 39: Excavation for the installation of GWIT Sump #1. Note the gray glacial till layer visible at the base of the excavation.

PHOTOGRAPH 40: Final placement of four sections of GWIT Sump #1.

PHOTOGRAPH 41: GWIT collection pipe installation extending east of GWIT Sump #1. Note the GWIT pipe extending out of the trench box.

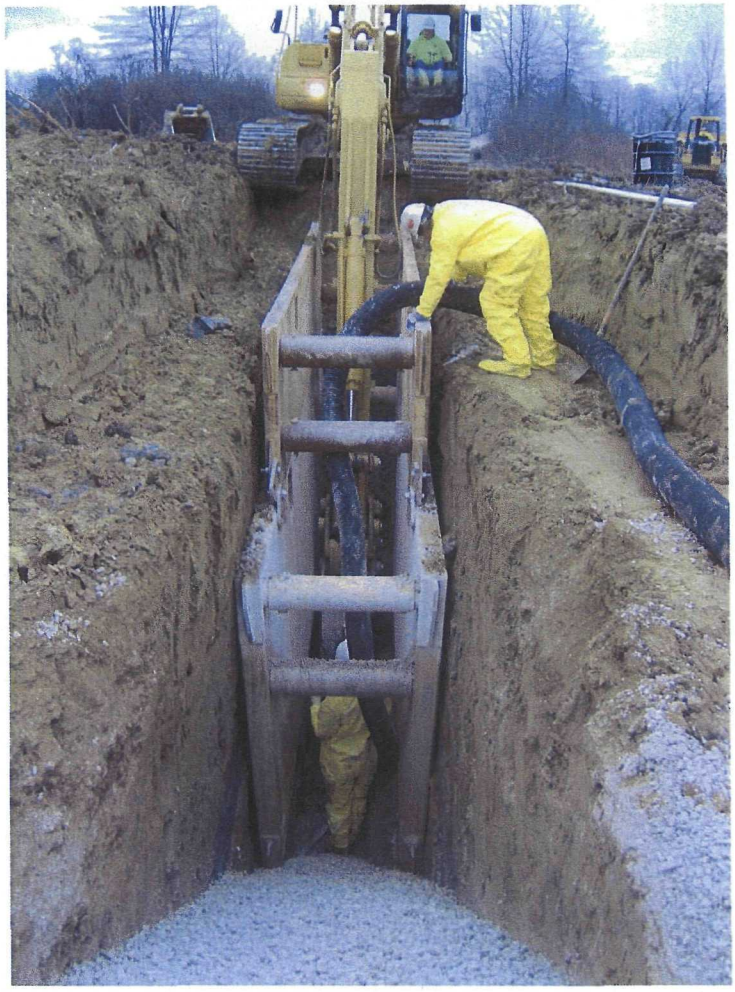
PHOTOGRAPH 42: Perspective photograph of the installation of the GWIT collection system extending east from GWIT Sump #1. Note the laser level used to place GWIT Sump #1 and maintain a 5% grade used to install GWIT pipe.

PHOTOGRAPH 43: Section of GWIT collection system is installed east of GWIT Sump #1. Pipe has been laid at grade, backfilled with gravel to within 4' of grade and filter fabric has been placed.

PHOTOGRAPH 44: Excavation of the GWIT collection system east of GWIT Sump #1 continues. Note the GWIT collection pipe is being placed to grade within the gray glacial till layer.

PHOTOGRAPH 45: GWIT collection pipe is placed to grade within the gray glacial till layer east of GWIT Sump #1.

PHOTOGRAPH 46: A second section of trench box was added to assure the safety of employees installing the GWIT collection pipe in the base of the trench.



PHOTOGRAPH 47: Installation of the GWIT collection system east of GWIT Sump #1 continues. Depth of trench from grade reaches approx.18 ft-bgs.

PHOTOGRAPH 48: Section of GWIT collection system completed and backfilled to within 4' of grade and filter fabric installed. Note the electric and forced main pipe has been laid on top of the filter fabric.

PHOTOGRAPH 49: GWIT collection pipe continues to be place in the gray glacial till layer east of GWIT Sump #1.

PHOTOGRAPH 50: Electric and forced main pipe ends are first cleaned and then glued east of GWIT Sump #1.

PHOTOGRAPH 51: Section of PVC pipe is fitted together after it has been cleaned and glued. Note the glued PVC pipes are then placed on top of filter fabric.

PHOTOGRAPH 52: Perspective photograph of the GWIT collection system installation east of GWIT Sump #1 before backfilling.

PHOTOGRAPH 53: PVC pipe continues to be cleaned and glued east of GWIT Sump #1.

PHOTOGRAPH 54: Section of the GWIT collection system has been installed and filter fabric and PVC pipe is placed before installation.

PHOTOGRAPH 55: Employees protected the section of GWIT collection pipe installed the shift at the end of each shift.

PHOTOGRAPH 56: Backfilling of the GWIT collection system east of GWIT Sump #1. Note the submersible pump discharge hose exiting GWIT Sump #1. Each morning water was pumped from this GWIT Sump and discharged to the east into the Waste Water Treatment GWIT Sump.

PHOTOGRAPH 57: Approximately 300' east of GWIT Sump #1 ground became very wet and trench cave-in's occurred regularly during the installation of this section of the GWIT.

PHOTOGRAPH 58: Cave-in encountered east of GWIT Sump #1.

PHOTOGRAPH 59: Perspective photograph of cave-ins that occurred daily during the installation of the GWIT collection system east of GWIT Sump #1. Note photograph taken from the east side of the trench box.

PHOTOGRAPH 60: Up date photograph of the boom placed in Fields Brook creek to collect an sheen that was released south of the 42" sewer pipe west of State Road.

PHOTOGRAPH 61: GWIT collection system continues to be installed east of GWIT Sump #1.

PHOTOGRAPH 62: Perspective photograph of the installation of the GWIT collection system east of GWIT Sump #1.

PHOTOGRAPH 63: Gravel is raked flat 4' below grade. Note the laser level that was used to place GWIT pipe on a 5% grade.

PHOTOGRAPH 64: Employee working inside the trench box at a depth of approximately 17 ft-bgs. Photograph taken east of GWIT Sump #1.

PHOTOGRAPH 65: GWIT collection pipe is placed within the gray glacial till layer.

PHOTOGRAPH 66: Track hoe positioned across the trench to excavate cave-in material that fills the trench.

PHOTOGRAPH 67: A steel plate was placed at the limit of the eastern limit of the excavation to prevent cave-ins over night. The trench box was backfilled with gravel. Cave-in's still occurred.

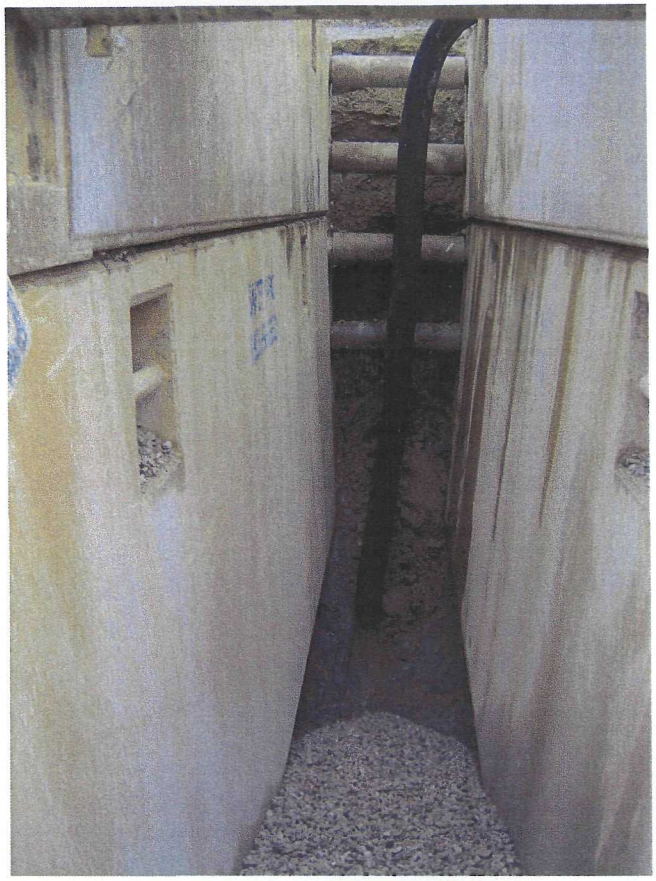
PHOTOGRAPH 68: Cave-in east of the trench box. Gray glacial till layer is visible where GWIT collection pipe is placed to grade.

PHOTOGRAPH 69: Interior of GWIT Sump #1 after water had been pumped to the Waste Water Treatment GWIT Sump.

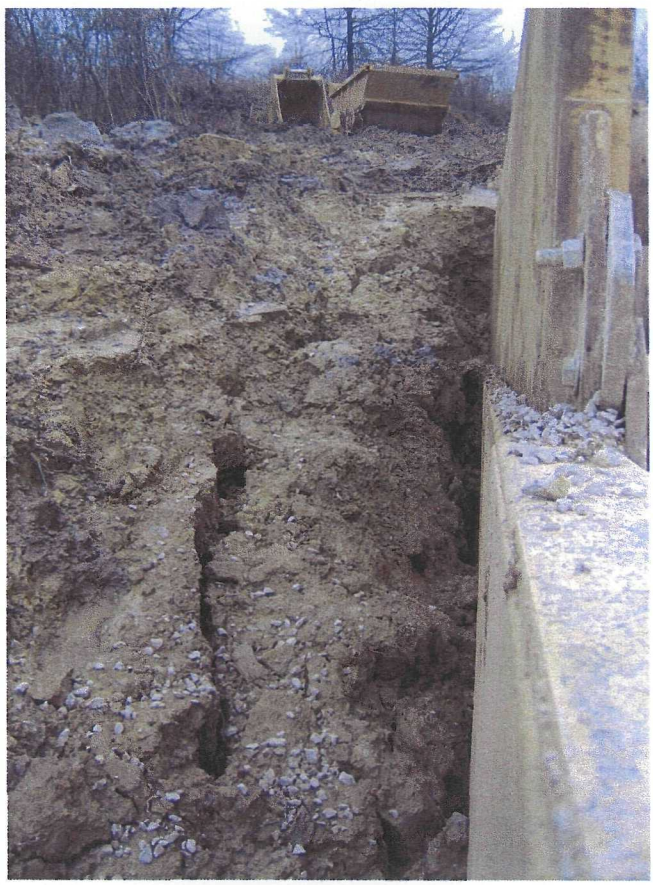
PHOTOGRAPH 70: Photograph of backfilled GWIT collection system east from GWIT Sump #2. Note the sample well approximately 150' to the east.

PHOTOGRAPH 71: Waste Water Treatment GWIT Sump located south of GWIT Sump #2. Shows the 4" discharge hose used to pump water from GWIT Sump #1.

PHOTOGRAPH 72: Standing water and extremely muddy conditions encountered during the installation of the GWIT collection system east of GWIT Sump #1.



PHOTOGRAPH 73: Installation of the GWIT collection pipe east of GWIT Sump #1. Note the dry conditions inside the trench box. Each morning water was pumped from GWIT Sump #1 before excavation could begin.



PHOTOGRAPH 74: Crack in the soil next to the trench box. Cracks would often reach 20' long during installation east of GWIT Sump #1.

PHOTOGRAPH 75: Competed section of GWIT collection system covered with filter fabric to minimize the affects of cave-ins. Note the sampling well that was installed close to the back hoe. Sampling wells were placed 150' apart east of GWIT Sump #1.

PHOTOGRAPH 76: Work area east of GWIT Sump #1 before excavation began. Note the steel sheet placed on the east side of the trench box to minimize cave-in's over night.

PHOTOGRAPH 77: GWIT collection system continues east of GWIT Sump #1.

PHOTOGRAPH 78: Cave-in material inside the trench box. Note the GWIT collection pipe curling out of the gravel area.

PHOTOGRAPH 79: Steel plate placed at the east end of the trench box east of GWIT Sump #1.

PHOTOGRAPH 80: Standing water and ice and extremely muddy conditions encountered during the installation of the GWIT collection system east of GWIT Sump #1.

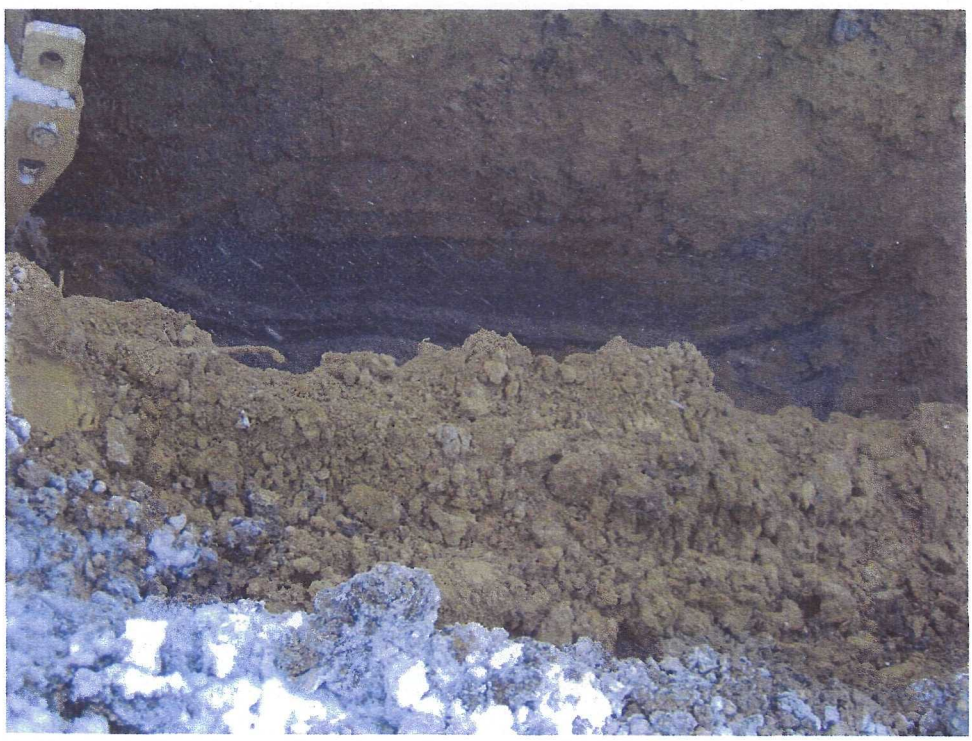
PHOTOGRAPH 81: Extremely muddy conditions east of GWIT Sump #2.

PHOTOGRAPH 82: Employee working inside the trench box east of GWIT Sump #1.

PHOTOGRAPH 83: Section of GWIT collection system that has been backfilled with gravel. Photograph taken facing the west toward GWIT Sump #1.

PHOTOGRAPH 84: Trench excavation east of GWIT Sump #1. Note the gray glacial till layer that GWIT pipe was placed in.

PHOTOGRAPH 85: Extreme eastern section of the GWIT collection system east of GWIT Sump #1.



PHOTOGRAPH 86: Extreme eastern section of GWIT collection system east of GWIT Sump #1. Note the GWIT collection pipe placement inside the gray glacial till layer.

Appendix C

GWIT Survey Data

141	816348.166747	2438857.511726	631.780924	EP
142	816348.726021	2438845.446153	632.042002	CL
143	816348.730687	2438833.084661	631.807411	EP
144	815906.776068	2438838.166213	623.113120	EP
145	815905.672619	2438850.556371	623.224092	CL
146	815905.417351	2438862.415273	622.933217	EP
147	816127.992532	2438919.160504	629.491289	G
148	816127.853034	2438919.333405	633.018974	TOP-PVC
149	816136.504667	2438965.386404	629.656708	G
150	816138.824372	2439001.746230	629.281530	G
151	816138.917343	2439002.187167	630.508927	TOP-PVC-615
152	816134.007633	2439051.934783	628.632395	G
153	816130.624194	2439051.854537	631.512265	ST-3
154	816134.372233	2439071.461900	627.118079	G
155	816135.592824	2439089.255582	626.347358	G
156	816135.646771	2439121.046287	629.427467	G
157	816133.183620	2439117.994182	632.280104	ST-1
158	816128.290849	2439165.578273	630.736471	G
159	816111.109277	2439203.213334	632.050129	G
160	816122.317967	2439210.464338	632.464329	G
161	816122.641892	2439209.842998	635.990110	TOP-PVC
162	816111.708845	2439203.476656	634.437115	TOP-PVC-613
163	816117.126527	2439275.943256	633.144202	G
164	816109.477612	2439346.120285	632.708849	G
166	816109.267407	2439345.309458	636.223713	TOP-PVC
167	816094.997191	2439403.961248	631.467169	G
168	816095.476006	2439404.014743	632.773860	TOP-PVC-611
169	816094.725113	2439462.791786	631.239424	G
170	816091.662879	2439529.694083	632.701158	G
171	816091.419881	2439528.588109	636.372130	TOP-PVC
172	816082.044165	2439584.913003	632.532665	G
173	816077.992459	2439610.775596	632.425710	G
174	816062.275002	2439605.672137	632.200237	G
175	816062.820160	2439605.640898	633.589532	TOP-PVC-609
176	816066.505488	2439657.691683	632.277598	G
177	816052.485166	2439719.995737	631.747868	G
178	816053.182296	2439719.830185	635.118263	TOP-PVC
179	816016.349159	2439796.217505	631.916000	G
180	816015.225705	2439796.417582	633.183310	TOP-PVC-607
182	816090.799021	2439913.364804	633.496391	G
183	816090.010337	2439912.719500	636.823756	TOP-PVC
184	815991.335266	2439922.625807	632.791560	G
185	815990.420123	2439922.270496	635.776685	TOP-PVC
186	816062.637894	2439986.501042	631.393131	G
187	815979.770524	2439963.950739	632.421752	CONC-BASE
188	815964.509375	2439975.497203	632.462677	PUMP-STA
189	816063.773904	2439986.719809	633.240341	TOP-PVC-601
190	816074.454059	2440012.318522	635.508330	ST-2
191	816077.617314	2440012.207946	632.318626	G
192	816080.119429	2440023.383992	630.190878	G
193	816084.872244	2440035.404300	625.892743	G
194	816088.897979	2440048.179195	629.150770	G
195	816100.533737	2440076.885648	630.747083	G
196	816090.039309	2440034.766966	625.888831	12"CPP
197	816112.428044	2440034.205952	625.905813	12"CPP
198	816099.739646	2440077.218934	634.299485	TOP-PVC
200	816128.629304	2440141.334331	632.442926	G
201	816153.542938	2440202.861497	633.668207	G
202	816112.437275	2440203.838450	632.281306	G
203	816113.042888	2440203.593998	634.597727	TOP-PVC-603
204	816167.343788	2440255.363678	634.167642	G
205	816184.763969	2440317.280670	634.769053	G
206	816202.037244	2440382.350422	635.524302	G

207	816201.145111	2440382.622799	638.917402	TOP-PVC
208	816175.833367	2440378.722327	635.035821	G
209	816176.588581	2440378.519338	636.187469	TOP-PVC-605
210	816154.553509	2440324.556002	634.093844	G
211	816131.375222	2440257.463014	632.986439	G
212	816108.572265	2440159.774940	631.775245	G

Appendix D

North Sewer Boring Logs

Project: Detrex North Sewer Project Location: Ashtabula, OH Project Number: 13811443	**Key to Log of Geoprobe Boring**

Elevation, feet	Depth, feet	SAMPLES: Type	SAMPLES: Number	SAMPLES: Recovery, inches	SAMPLES: Headspace, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
1	2	3	4	5	6	7	8	9

COLUMN DESCRIPTIONS

1. **Elevation:** Elevation in feet referenced to mean sea level (msl).
2. **Depth:** Depth in feet below the ground surface.
3. **Sample Type:** Type of soil sample collected at depth interval shown; sampler symbols are explained below.
4. **Sample Number:** Sample identification number.
5. **Recovery:** Length (in inches) of soil sample actually recovered in the sampler. "NA" indicates data not recorded.
6. **Headspace, ppm** MultiRea Photo-Ionnization Detector (PID) reading in headspace of sealable plastic bag after several minutes of vapor accumulation.
7. **Graphic Log:** Graphic depiction of subsurface material encountered; typical symbols are explained below.
8. **Material Description:** Description of material encountered; may include moisture, color, grain size, and density/consistency.
9. **Remarks:** Comments and observations regarding drilling or sampling made by driller or field personnel.

TYPICAL MATERIAL GRAPHIC SYMBOLS


TOPSOIL


Silty SAND


Silty Sandy CLAY


Sandy Silty CLAY


Silty CLAY

TYPICAL SAMPLER GRAPHIC SYMBOLS


Geoprobe


Sample Submitted for Laboratory Analysis

OTHER GRAPHIC SYMBOLS


First water encountered at time of drilling and sampling (ATD)


Minor change in material properties within a lithologic stratum

GENERAL NOTES

1. Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive; actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2. Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

URS

Project: Detrex North Sewer Project Location: Ashtabula, OH Project Number: 13811443	Log of Boring NSPZ-1 Sheet 1 of 1

Date(s) Drilled	1/18/07	Logged By	A. Leff	Checked By	M. Schmidt
Drilling Method	Direct Push	Drill Bit Size/Type	Geoprobe Sampler	Total Depth of Borehole	16.0 feet
Drill Rig Type	Geoprobe 5400 bobcat mounted	Drilling Contractor	Northcoast Drilling	Surface Elevation	NA
Groundwater Level and Date Measured	None Encountered ATD	Sampler Types	Acetate Liner	Boring Completion	Well Detail
Coordinate Location		Boring Location	Refer To Site Plan		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, inches	PID, OVA, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	0						TOPSOIL w/rootlets	
			DP-1	48	0.0		Moist, brown, silty CLAY	
					0.0			
	5		DP-2	48	0.0			
					0.0		Moist, brown, silty SAND	
			DP-3	18	0.0			
	10		DP-4	0	NA		Moist, brown, silty sandy CLAY	
			DP-5	48	0.0			Soil sample from 12' to 14' submitted for laboratory analysis
	15				0.0		Dry, gray, silty CLAY (TILL)	
							End of Boring at 16' BGS	

URS

Report: ENV_3CS_3COL; File: DETREX NORTH SEWER.GPJ; 6/15/2007 NSPZ-1

Project: Detrex North Sewer Project Location: Ashtabula, OH Project Number: 13811443	Log of Boring NSPZ-2 Sheet 1 of 1

Date(s) Drilled	1/22/07	Logged By	A. Leff	Checked By	M. Schmidt
Drilling Method	Direct Push	Drill Bit Size/Type	Geoprobe Sampler	Total Depth of Borehole	15.0 feet
Drill Rig Type	Geoprobe 5400 bobcat mounted	Drilling Contractor	Northcoast Drilling	Surface Elevation	NA
Groundwater Level and Date Measured	None Encountered ATD	Sampler Types	Acetate Liner	Boring Completion	Well Detail
Coordinate Location		Boring Location	Refer To Site Plan		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, inches	PID, OVA, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	0		DP-1	36	0.0		Dry, brown, sandy silty CLAY	
					0.0		Moist, brown, silty CLAY	
	5		DP-2	48	0.0			
					0.0			
					0.0		Moist, brown and gray mottled, silty CLAY	
	10		DP-3	48	25.7			
			DP-4	36	83.5		Moist, gray, silty CLAY (TILL)	Soil sample from 12' to 14' submitted for laboratory analysis
					0.8			
	15						End of Boring at 15' BGS	

URS

Report: ENV_3CS_3COL; File: DETREX NORTH SEWER.GPJ; 6/15/2007 NSPZ-2

Project: Detrex North Sewer Project Location: Ashtabula, OH Project Number: 13811443	Log of Boring NSTB-1 Sheet 1 of 1

Date(s) Drilled	1/18/07	Logged By	A. Leff	Checked By	M. Schmidt
Drilling Method	Direct Push	Drill Bit Size/Type	Geoprobe Sampler	Total Depth of Borehole	12.0 feet
Drill Rig Type	Geoprobe 5400 bobcat mounted	Drilling Contractor	Northcoast Drilling	Surface Elevation	NA
Groundwater Level and Date Measured	None Encountered ATD	Sampler Types	Acetate Liner	Boring Completion	Well Detail
Coordinate Location		Boring Location	Refer To Site Plan		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, inches	PID, OVA, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	0						Firm, moist, brown, silty CLAY	
	1		DP-1	24	0.0			
	2				0.0			
	3		DP-2	0	NA			
	4							
	5				0.0			
	6		DP-3	48			Moist, gray, silty CLAY (TILL)	
	7				0.0			
	8							
	9				0.0			
	10		DP-4	48				
	11				0.0			Soil sample from 10' to 12' submitted for laboratory analysis
	12						End of Boring at 12' BGS	
	13							

URS

Report: ENV_3CS_3COL; File: DETREX NORTH SEWER.GPJ; 6/15/2007 NSTB-1

Project: Detrex North Sewer Project Location: Ashtabula, OH Project Number: 13811443	Log of Boring NSTB-2 Sheet 1 of 1

Date(s) Drilled	1/18/07	Logged By	A. Leff	Checked By	M. Schmidt
Drilling Method	Direct Push	Drill Bit Size/Type	Geoprobe Sampler	Total Depth of Borehole	16.0 feet
Drill Rig Type	Geoprobe 5400 bobcat mounted	Drilling Contractor	Northcoast Drilling	Surface Elevation	NA
Groundwater Level and Date Measured	Approximately 6' BGS	Sampler Types	Acetate Liner	Boring Completion	Well Detail
Coordinate Location		Boring Location	Refer To Site Plan		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, inches	PID, OVA, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	0						Moist, brown, sandy CLAY	
			DP-1	48	0.0			
					0.0			
	5		DP-2	48	0.0			
					0.0		Wet, gray and brown mottled, silty CLAY	
			DP-3	48	0.0			
	10				0.0			
			DP-4	48	0.0		Moist, gray, silty CLAY (TILL)	
	15				0.0			Soil sample from 14' to 16' submitted for laboratory analysis
							End of Boring at 16' BGS	

URS

Report: ENV_3CS_3COL; File: DETREX NORTH SEWER.GPJ; 6/15/2007 NSTB-2

Project: Detrex North Sewer Project Location: Ashtabula, OH Project Number: 13811443	Log of Boring NSTB-3 Sheet 1 of 1

Date(s) Drilled	1/18/07	Logged By	A. Leff	Checked By	M. Schmidt
Drilling Method	Direct Push	Drill Bit Size/Type	Geoprobe Sampler	Total Depth of Borehole	16.0 feet
Drill Rig Type	Geoprobe 5400 bobcat mounted	Drilling Contractor	Northcoast Drilling	Surface Elevation	NA
Groundwater Level and Date Measured	Approximately 9.25' BGS	Sampler Types	Acetate Liner	Boring Completion	Well Detail
Coordinate Location		Boring Location	Refer To Site Plan		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, inches	PID, OVA, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	0		DP-1	18	0.0		TOPSOIL Moist, brown, silty CLAY	
			DP-2	0	NA			
							Dry, brown, silty CLAY	
	5		DP-3	48	0.0			
					0.0		Moist, gray, silty CLAY (TILL)	
							Moist, brown and gray, silty CLAY (TILL)	
			DP-4	48	0.0		Wet	
	10				0.0		Dry, brown, silty CLAY (TILL)	
							Dry, gray, silty CLAY (TILL)	
			DP-5	24	0.0			Soil sample from 12' to 14' submitted for laboratory analysis
	15		DP-6	0	NA			
							End of Boring at 16' BGS	

URS

Report: ENV_3CS_3COL; File: DETREX NORTH SEWER.GPJ; 6/15/2007 NSTB-3

Project: Detrex North Sewer Project Location: Ashtabula, OH Project Number: 13811443	Log of Boring NSTB-4 Sheet 1 of 1

Date(s) Drilled	1/18/07	Logged By	A. Leff	Checked By	M. Schmidt
Drilling Method	Direct Push	Drill Bit Size/Type	Geoprobe Sampler	Total Depth of Borehole	16.0 feet
Drill Rig Type	Geoprobe 5400 bobcat mounted	Drilling Contractor	Northcoast Drilling	Surface Elevation	NA
Groundwater Level and Date Measured	Approximately 8' BGS	Sampler Types	Acetate Liner	Boring Completion	Well Detail
Coordinate Location		Boring Location	Refer To Site Plan		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, inches	PID, OVA, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	0						TOPSOIL	
			DP-1	36	0.0			
					0.0		Dry, brown, silty CLAY	
	5		DP-2	48	0.0			
					0.0		Brown and gray mottled, silty sandy CLAY	
			DP-3	48	0.0		Wet, gray, silty sandy CLAY ▽	
	10				0.0		Dry, grayish brown, sandy silty CLAY (TILL)	
			DP-4	48	0.0			
	15				0.0			Soil sample from 14' to 16' submitted for laboratory analysis
							End of Boring at 16' BGS	

URS

Report: ENV_3CS_3COL; File: DETREX NORTH SEWER.GPJ; 6/15/2007 NSTB-4

Project: Detrex North Sewer Project Location: Ashtabula, OH Project Number: 13811443	Log of Boring NSTB-5 Sheet 1 of 1

Date(s) Drilled	1/22/07	Logged By	A. Leff	Checked By	M. Schmidt
Drilling Method	Direct Push	Drill Bit Size/Type	Geoprobe Sampler	Total Depth of Borehole	14.0 feet
Drill Rig Type	Geoprobe 5400 bobcat mounted	Drilling Contractor	Northcoast Drilling	Surface Elevation	NA
Groundwater Level and Date Measured	None Encountered ATD	Sampler Types	Acetate Liner	Boring Completion	Well Detail
Coordinate Location		Boring Location	Refer To Site Plan		

Elevation, feet	Depth, feet	SAMPLES: Type	Number	Recovery, inches	PID, OVA, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	0						Moist, brown, sandy silty CLAY	
	1		DP-1	36	0.0			
	2				0.0			
	3		DP-2	0	NA			
	4							
	5				0.0		Moist, brownish gray, silty CLAY	
	6		DP-3	48			Moist, brown and gray mottled, silty CLAY	
	7				0.0			
	8							
	9				0.0			
	10		DP-4	48				
	11				0.0			
	12						Moist, gray, silty CLAY (TILL)	
	13		DP-5	48	25.7			Soil sample from 12' to 14' submitted for laboratory analysis
	14						End of Boring at 14' BGS (Refusal)	
	15							

Report: ENV_3CS_3COL; File: DETREX NORTH SEWER.GPJ; 6/15/2007 NSTB-5

URS

Project: Detrex North Sewer Project Location: Ashtabula, OH Project Number: 13811443	Log of Boring NSTB-6 Sheet 1 of 1

Date(s) Drilled	1/22/07	Logged By	A. Leff	Checked By	M. Schmidt
Drilling Method	Direct Push	Drill Bit Size/Type	Geoprobe Sampler	Total Depth of Borehole	15.0 feet
Drill Rig Type	Geoprobe 5400 bobcat mounted	Drilling Contractor	Northcoast Drilling	Surface Elevation	NA
Groundwater Level and Date Measured	Approximately 8' BGS	Sampler Types	Acetate Liner	Boring Completion	Well Detail
Coordinate Location		Boring Location	Refer To Site Plan		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, inches	PID, OVA, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	0						Moist, brown, sandy silty CLAY	
			DP-1	48	0.0			
					0.0			
	5		DP-2	43	0.0			
					0.0		Moist, gray, silty CLAY	
					0.0		Wet, gray and brown mottled, silty CLAY	
	10		DP-3	48	0.0		Dry, gray and brown mottled, silty CLAY	
							Dry, gray, silty CLAY (TILL)	
			DP-4	24	0.0			Soil sample from 12' to 14' submitted for laboratory analysis
			DP-5	0	NA			
	15						End of Boring at 15' BGS	

URS

Report: ENV_3CS_3COL; File: DETREX NORTH SEWER.GPJ; 6/15/2007 NSTB-6

Project: Detrex North Sewer Project Location: Ashtabula, OH Project Number: 13811443	Log of Boring NSTB-7 Sheet 1 of 1

Date(s) Drilled	1/22/07	Logged By	A. Leff	Checked By	M. Schmidt
Drilling Method	Direct Push	Drill Bit Size/Type	Geoprobe Sampler	Total Depth of Borehole	12.0 feet
Drill Rig Type	Geoprobe 5400 bobcat mounted	Drilling Contractor	Northcoast Drilling	Surface Elevation	NA
Groundwater Level and Date Measured	Approximately 4' BGS	Sampler Types	Acetate Liner	Boring Completion	Well Detail
Coordinate Location		Boring Location	*Refer To Site Plan*		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, inches	PID, OVA, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	0						Moist, brown, silty CLAY	
	1		DP-1	6	3.8			
	2							
	3		DP-2	0	NA			
	4						▽ Wet, brown, silty sandy CLAY	
	5				7.0			
	6		DP-3	30			Moist, gray and brown mottled, silty CLAY, some rootlets	
	7				0.0			
	8						▽ Wet, brown, silty CLAY	
	9				0.0			
	10		DP-4	48			▽ Dry, brown, silty CLAY	
	11				0.0			Soil sample from 10' to 12' submitted for laboratory analysis
	12						End of Boring at 12' BGS	
	13							

Report: ENV_3CS_3COL; File: DETREX NORTH SEWER.GPJ; 6/15/2007 NSTB-7

URS